# THE CULTIVATOR.

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

Cult. Vol. VIII.—No. 9 | ALBANY, N. Y. SEPTEMBER, 1841. | Cult. & Far. Vol. II.—No. 9.

PUBLISHED MONTHLY.

GAYLORD & TUCKER, EDITORS.

JESSE BUEL & CO. PROPRIETORS.

**One Dollar per annum—Six Copies for $5.**

(PAYABLE ALWAYS IN ADVANCE.)

20 per cent commission on 25 or more subscribers, and 25 per cent commission on 100 or more.

Subscriptions to commence with a volume; and the money to be sent free of postage.

"TO IMPROVE THE SOIL AND THE MIND."

## Cattle Show and Fair of the State Ag. Society.

We publish to-day the proceedings of the Executive Committee of the State Agricultural Society, at their meeting on the 18th ult., to complete their arrangements for the Show and Fair of the 29th and 30th of the present month; the Rules adopted for the government of the exhibition; and the names of the gentlemen constituting the several committees appointed for the examination of articles offered, and the awarding of premiums.

The preliminary arrangements having thus been completed, it now remains for the friends of Agriculture, for the farmers, the mechanics, and all who are anxious for the advancement of agricultural science and practice, to come forward at once and give the Society and its objects their countenance and effectual support. There is the wealth, there is the ability, and we hope the inclination will not not be found wanting, to make the State Society to this country what the Highland Society is to Scotland, the patron and the example of all the minor associations. An examination of the names of the gentlemen composing the several committees will show that a sufficient guarantee is given for the impartial discharge of the duties assigned: and we may be permitted to express the hope, that all so named, will be found promptly, efficiently and cheerfully, to perform those duties. It is presumed from the interest manifested, that the Show and Fair will be one hitherto unequaled in the United States, and that the collection of animals, implements, &c. will be of the most satisfactory description.

The Show and Fair of the Onondaga county Agricultural Society will be held at the same time and place, and we may expect that the farmers of that rich and populous county, will, by their show of fine animals, vegetable production, agricultural implements, &c. add much to the interst and pleasure of the two days.

## New-York State Agricultural Society.

### Cattle Show and Fair at Syracuse.

At a meeting of the Executive Committee of the N. Y. State Agricultural Society, held at Syracuse, Aug. 18, 1841—present, Messrs. Nott, Johnson (of Oneida,) Gaylord, Randall, and Tucker,—the following Viewing Committees were appointed to award the Premiums offered by the Society at their Cattle Show and Fair to be held at Syracuse on the 29th and 30th days of September:

ON CATTLE.

Class I—Bulls—*of any breed, 3 years old and upwards.*
Henry S. Randall, Cortland, | C. N. Bement, Albany,
A. B. Allen, Erie, | William Garbutt, Monroe,
J. McDonald McIntyre, Albany.

Classes II and III—Bulls—*of any breed, under 3 years old.*
Francis Rotch, Otsego, | J. C. Hathaway, Ontario,
Henry Rhoades, Oneida, | George Vail, Rensselaer,
George J. Pumpelly, Tioga.

Class IV—Cows—*of any breed, 3 years old and upwards.*
Anthony Van Bergen, Greene, | Thomas Hollis, Otsego,
E. P. Prentice, Albany, | Ira Hitchcock, Oneida,
Hiram Bostwick, Chemung.

Classes V and VI—Heifers—*any improved breed, under 3 years.*
Lewis F. Allen, Erie, | Thomas Weddle, Monroe,
Silas Gaylord, Onondaga, | John Gaskin, Otsego,
Jonah Davis, Chemung.

Class VII—Grade Cows.
Garret Sackett, Seneca, | M. Bullock, Albany,
C. S. Button, Wayne, | Thomas Goodsell, Oneida,
William Otley, Ontario

Class VIII—Grade Heifers.
S. W. Brace, Onondaga, | William Alexander, Otsego,
John M. Sherwood, Cayuga. | D. D. Campbell, Schenectady.
Rufus Boies, Cortland.

Class IX—Cows—*native breeds.*
Myron Adams, Ontario, | Aaron Barns, Oneida,
Thomas S. Meacham, Oswego, | —— Crane, Herkimer,
Tyler Fountain, Westchester.

ON HORSES.
William T. Porter, New-York, | William Bartlett, Cortland,
Lewis F. Allen, Erie, | John J. Viele, Rensselaer,
William B. Ludlow, Columbia.

ON SHEEP—Class I—*Long Wooled.*
John P. Beekman, Columbia. | Thomas Jackson, Otsego,
John Snooks, Onondaga, | William C. Cornell, Monroe,
John Holmes, Washington.

Class II—*Middle Wooled.*
A. B. Allen, Erie, | L. D. Clift, Putnam,
Thomas Dunn, Albany, | Howell Gardiner, Saratoga.
William Musson, Otsego.

Class III—*Fine Wooled.*
William Randall, Cortland, | L. A. Morrell, Tompkins,
Henry D. Grove, Rensselaer, | J. W. Kneevels, Dutchess,
Robert C. Nicholas, Ontario.

ON SWINE.
John Randall, Chenango, | Nelson Washburn, Otsego,
Ezra Cornell, Tompkins, | Elon Comstock, Oneida,
William Salisbury, Greene.

ON PLOWS.
Jesse R. Burden, Rensselaer, | Humphrey Howland, Cayuga,
Anthony Van Bergen, Greene, | Henry Stephens, Cortland,
Jeremiah Johnson, Kings, | Elias Phinney, Massachusetts,
John J. Thomas, Ontario, | Isaac Hill, New-Hampshire,
Rawson Harmon, Jr. Monroe, | S. W. Jewett, Vermont.

ON CULTIVATORS, DRILL BARROWS AND HARROWS.
James McCall, Allegany, | Enoch Marks, Onondaga,
L. C. Ball, Rensselaer, | George Walsworth, Oneida,
Arvin Rice, Oswego.

ON THRASHING MACHINES.
L. B. Langworthy, Monroe, | G. W. Patterson, Livingston,
Orville Hungerford, Jefferson, | Lauren Beach, Onondaga,
Micah Brooks, Livingston.

ON HORSE RAKES AND STRAW CUTTERS.
Nicoll Halsey, Tompkins, | John B. Dill, Cayuga,
Jabez Burrows, Chautauque, | Hiram Hopkins, Cortland,
Chester Moses, Skaneateles.

ON FARM IMPLEMENTS—*not enumerated above.*
William Parsons, Niagara, | Jesse Ives, Cortland,
Samuel Hecox, Wayne, | Joseph Hastings, Rensselaer,
Ira Hopkins, Cayuga.

ON SAMPLES OF GRAIN.
Pomeroy Jones, Oneida, | Roswell Curtis, Cayuga,
George S. Taylor, Cortland, | Warner Abbott, Onondaga,
E. S. Beach, Monroe.

ON SAMPLES OF ROOTS.
Heman Chapin, Ontario, | Lewis Eames, Oneida,
S. P. Rhoades, Onondaga, | J. F. Osborn, Cayuga,
S. B. Burchard, Madison.

ON HORTICUTURAL PRODUCTS.
David Thomas, Cayuga, | Grant Thorburn, Queens,
Alexander Walsh, Rensselaer, | E. Holbrook, Dutchess,
Oliver Phelps, Ontario.

COMMITTEE OF ARRANGEMENTS.

| *State Society.* | *Onondaga Co. Society.* |
|---|---|
| Henry S. Randall, | P. N. Rust, |
| Harvey Baldwin, | Jos. Savage, |
| Luther Tucker, | M. D. Burnett, |
| William Fuller, | E. F. Wallace, |
| M. B. Bateham. | J. M. Ellis. |

The following gentlemen were appointed a committee to solicit members and funds for the Society at Syracuse:

| | |
|---|---|
| M. D. Burnett, Esq. | B. D. Noxon, |
| H. Baldwin, Esq. | P. N. Rust, |
| J. R. Lawrence, Esq. | J. Sanford. |

## Additional Premiums.

### TO BREEDERS.

F. Rotch, Esq. having given the Society $30 for that purpose, Premiums will be awarded to Breeders as follows:

| | |
|---|---|
| To the breeder of the best thorough bred Bull, | $10 00 |
| To the breeder of the best thorough bred Cow, | $10 00 |
| To the breeder of the best thorough bred Heifer, | $10 00 |

### FOR WORKING OXEN.

Willis Gaylord, Esq. having contributed $20, for that purpose, a premium will be given

| | |
|---|---|
| For the best yoke of working Oxen, | $12 00 |
| For the 2d best do. do. do. | 8 00 |

In awarding this Premium, particular reference will be had to the close matching, *excellent training*, and docility of the animals, as well as to their general good appearance. Committee:—Abel Baldwin, David Bundy and Dan Hibbard.

### FAT CATTLE.

Mr. Rust offers a sweepstakes, twenty dollars entry, for the best yoke of fat cattle. Committee:—B. P. Johnson, B. D. Noxon and M. D. Burnett.

☞ A Plowing Match, under the direction of the Onondaga County Agricultural Society, will take place immediately after the Trial of Plows, on the second day of the Fair.

## Regulations for the Fair.

I. A Committee of Arrangements, consisting of five members, will in conjunction with a committee consisting of the same number, appointed by the Onondaga county Agricultural Society, exercise a general supervision and control on the day of the Fair.

II. Clerks shall be appointed by the committee of arrangements, who shall occupy a convenient stand near the place of exhibition, who shall give to every one entering animals, cards, with the number of the pens which said animals shall occupy, and the premiums for which said animals are entered, written thereon—and such cards shall be conspicuously placed upon the pens containing the animals. A list of all such entries shall be kept by said clerks.

III. No animals shall be removed from the pens until the close of each day's exibition without permission of a member of the Committee of Arrangements.

IV. Applicants for premiums on animals will be prepared with written statements, accurately detailing the age and method of feeding such animals; and those drawing premiums may be required to make oath to the correctness of said statements. Such written statements will be delivered to the clerks on entering the animals.

V. All animals will be examined and premiums awarded on the first day of the Fair, and the viewing committees will commence their inspection at 10 o'clock, A. M. No spectators will be admitted to the yard, until after the viewing committees have performed their duties.

VI. Implements, products, &c. will be examined on the second day of the Fair. Implements, particularly plows, will be put to a full and accurate test.

VII. Any inhabitant of the State will be suffered to compete for premiums on animals and products, and any inhabitant of the United States for premiums on implements, on the payment of one dollar, if not already members of the Society.

VIII. Viewing Committees shall in all cases have power to examine applicants for pemiums personally, when more particular or satisfactory information is desired.

IX. No premium shall be awarded without a competition, unless the viewing committee shall deem the animal or product or implement exhibited, highly meritorious—nor in cases where there is competition, unless they shall consider such animal, product or implement worthy of the same.

X. All reports of viewing committees shall be made in writing and signed by the members assenting thereto.

XI. All persons intending to compete for the premiums on animals, shoul give notice to that effect on or before the 20th Sept. to Luther Tucker, Albany; H. S. Randall, Cortland Village; M. B. Bateham, Rochester, or P. N. Rust, Syracuse—in order that the necessary accommodations may be made for them. It is desirable also that those who intend to compete for the prizes on Implements should give notice as above by the 20th September.

☞ Owners of stock throughout the State, and manufacturers and patentees of agricultural and horticultural implements, throughout the United States, are invited to present their animals and implements. Samples of farm and garden products, silk, cocoons, domestic manufactures, &c. &c., are also solicited.

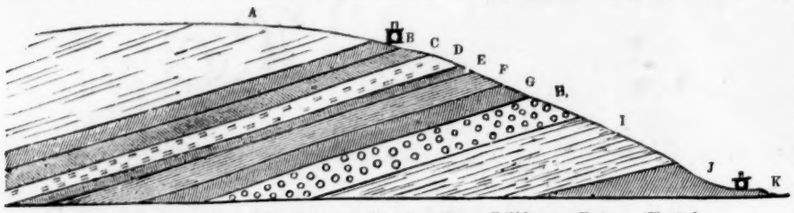
☞ Discretionary Premiums will be awarded on articles not enumerated in the Prize List.

☞ The Society will dine at Rust's, at 3 o'clock, P. M. on each day of the Fair.

☞ The officers of the Society and the Committee of Arrangements are requested to meet at the Syracuse House on Tuesday evening, Sept. 28.

## Illinois Swamp Grass.

We have received from G. Churchill, Esq. a specimen of the swamp prairie grass of Illinois. It is a good looking grass, *some* five feet in height, and appears to be an undescribed species of the *Poa* family. What effect cultivation would have upon it, or whether it would bear competition with the cultivated grasses, such as Timothy, Herdsgrass or the Clovers, remains to be seen. We are inclined to the opinion that most, if not all, of the wild grasses must give way to what are called the artificial ones. It is possible, however, that among the many varieties found in the broad west, some may be found of superior value, and which will take a high rank among the artificial or cultivated grasses.




**Geological Section, illustrative of the Onondaga Saliferous Group.**—[Fig. 70.]

REFERENCES.

A.—Marcellus shales overlying the saliferous group.
B.—Seneca or upper limestone of the same group; Onon. Hill.
C.—Cornitiferous limestone.
D.—Crinoidal limetone; Split Rock quarries
E.—Oriskany sandstone.
F.—Waterlimes.
G.—Magnesian limestones.
H.—Gypseous formation, and gypsum beds.
I.—Gypseous shales.
J.—Red marl and shales; Geddes.
K.—Level of Onondaga Lake.

## Mineral Salt—Onondaga Salines.

THE last number of Prof. Silliman's Journal announces that a regular mineral salt formation, or rock salt, has for the first time been discovered in the United States proper. This discovery has been made in Virginia, about 18 miles from Abingdon, in the process of boring for brine in the salt works, owned by W. Findley, Esq. The information in the Journal, is given on the authority of the Rev. Mr. Taylor of Abingdon, and Prof. Silliman had received a box of the salt. "The salt forwarded to us," says Prof. S., "is highly crystalline in its structure, and except a red color, (obviously derived from iron,) and occasionally fragments of rocks mixed with it, appears very pure." Mr. Taylor states "that in sinking the well in which the rock salt was found, they penetrated earth and rock about 50 or 60 feet, when they came on plaster, through which they passed from 150 to 170 feet. They then struck upon the the bed of salt, and penetrated it 50 or 60 feet without reaching the salt water; they then abandoned the digging, applied the auger and bored about ten feet more, as he supposes, through the salt, but the mixture of salt water renders it uncertain." The roof then appears to be plaster, but the floor is unknown. Prof. S. remarks that from the fragments intermixed with the salt, it is evident that sandstone and marly clays are among the series perforated.

We consider this a very important announcement, and particularly so to New York, which has such an interest in her invaluable Salines at Onondaga. When Mr. Jefferson urged upon the United States the purchase of Louisiana from Spain, one of his arguments was found in the existence of an immense mountain of rock salt in the contemplated purchase, and which might hereafter be of great value to the country. At the time, the existence of such a mountain was disbelieved by fourfifths of the citizens of the states, and some of the most pungent stanzas in Dr. Caustic's, (alias Fessenden's,) 'Democracy Unveiled,' related to this salt mountain The expeditions of Pike and Long, however, have set that matter at rest, they having ascertained that some of the head branches of Red River flow for miles in a deep ravine, the banks of which, to a great height, are pure rock salt. And Mr. Parker, who was sent out by the Missionary Society some years since to inquire into the expediency of establishing Missions among the Indians of the Rocky Mountains and the Columbia, found rock salt existed in great quantities on the Salmon river, which flows to the Columbia. The close connection which in Virginia has been found to exist between brine springs and mineral salt, it is reasonable to infer exists elsewhere, and it is to be hoped that the circumstances attending this discovery will, when fully investigated, (we shall wait with impatience for Prof. Rogers', the able Geologist of Virginia, report on the matter,) be such as may serve as a clue to guide those near the other great salines of the country, and in particular those of Onondaga, to a successful exploration for mineral salt.

An examination of the various mines of rock salt found in various parts of the globe, will show that there is a remarkable similarity in their geological position with reference to other rocks. Of this, every one who has paid attention to the subject, who has read the accounts given of the mines of Cardona in Spain, of Wielitzka in Poland, Cheshire in England, and those of the salines in this country, as detailed by Dr. Beck in the Geological Reports, must be aware; and every additional investigation made in Onondaga, of the structure, position and order of the rock series, goes to confirm the belief that mineral salt is abundant in that vicinity.

In France, in the Department of La Meurthe, are brine springs which were known and worked before the christian era. No fossil salt was discovered until the modern practice of boring for strong brine was adopted, when at Vic, in the heart of the saline district, mineral salt was reached, as it now has been in Virginia. The boring at first passed though sandstone and clay, with veins of plaster. At the depth of 160 feet, the clay and plaster which the borer brought up was found to be mixed with grains of rock salt; and at about 200 feet the rock salt in mass was reached. The boring was continued to near 300 feet, passing through more than 60 feet of salt, divided by thin strata of plaster, into three beds.

Dr. Hastings, in his lecture on the salt springs of Worcestershire, including those of Cheshire and Droitwich, gives the following as their geological position, as observed at Droitwich:

"First a stratum of mold 3 feet deep, then a stratum of red marl 40 feet deep, which abounds with water of a brackish nature. After that a stratum of marl which extends 130 feet. In this marl are no springs of water; it is quite dry, but is penetrated with perpendicular veins of gypsum. At the distance of 130 feet from the commencement of the gypsum in the marl, we come to a strong brine which rushes up to the surface as soon as it is bored into. This brine is 10 feet deep, and the rock salt is under this river of brine."

The salt mines of Weilitzka and Hallen, in Hungary, abound in strata of marl, gypsum, and masses of argillaceous matter; but there can be no need of multiplying instances, since it may safely be asserted that no rock salt has been any where found unaccompanied by plaster, marl, (usually the red marl) and nearly always by limestone. The remarkable accumulation of these materials around the Onondaga Salines, would clearly indicate that the source of the brine springs there, as well as elsewhere, is to be found in beds of mineral salt. The important question to be decided is, in what strata are these beds of rock salt, and where are we to look for them?

The formation called the saliferous group of Onondaga and Cayuga counties, is one of great thickness, being, in the vicinity of the Onondaga Salines, not less than eight hundred or nine hundred feet, embracing the whole mass from the Protean or Rochester limestone group up to the Marcellus shales. Its floor may be considered the mass of shales and limestones that form the rocks at Niagara, Rochester and Fulton, dipping to the south at the rate of some 40 or 50 feet to the mile, while the roof is the shales called the Marcellus shales, and which a little south of the central line of the county are superimposed on the saliferous group. That this group is properly so termed there can be no question, when the strata of which it is composed are compared with those of other countries and places where brines and rock salt are found. Here we have the limestone, the plaster, and the marls, and more than these, brine of greater strength than any hitherto found, unless one of the Virginia wells at Holston, and closely connected with the mineral salt beds now discovered, be an exception. Prof. Rogers, in his Geological Report, mentions the curious fact, that at the Holston wells, furnishing the strongest brine, small grannles of rock salt were sometimes thrown up by the water pumped, and urges this as a proof of the near vicinity of salt beds of massive salt, a supposition now shown to be founded on fact.

Beginning at the lower part of the saliferous group, is found the red shale or marl, and this is much the thickest deposit of the group, being not less than 450 or 500 feet. It underlies the whole level region about Salina. Liverpool is built upon it, the hills about Geddes and Salina show it passing into the gypsum shales, and in passing east or west, the canal at some points is excavated in it. It may be said that there is little probability of finding salt in this strata. The brine derived from it, evidently exists in excavations made in it by currents at some distant period, and which have since been filled by coarse diluvial matter, pebbles, gravel, &c. Of this the numerous borings made around the Onondaga lake, at Liverpool, Salina, Syracuse, and Geddes, affords the most conclusive proof. The great boring made by the State, penetrated the whole mass of this shale, and at the depth of nearly 600 feet, terminated in the limestone of the group below, a result confidently predicted by the State geologists. No salt or brine has been found in it, except where a connection could be made out between the well and the adjacent excavated reservoir of brine. The red marls have derived a new importance since the intimate relation they bear to the production or presence of salt has been discovered. The mud of the salt marshes of the Mediterranean is usually a deep red color, and this color M. Joly has discovered is produced by animalculi, called by him *Monas dunalii*, which exists in the water in incalculable numbers, and perishing give their hue to the mass they so essentially aid in forming. The "Annals and Magazine of Natural History" for Sept. 1840, states that the "same infusoria are found in the argello-calcareous marls of Cardona, beneath the rock salt." Do the red marls which form the basis of the New York salines owe their origin to this cause? The subject is well worthy examination.

Above the shale or marl now described, comes a varied mass of shales of different colors and different degrees of hardness. In the lower layers, red predominates, but above are green, blue and yellow, with several repetitions, before the regular plaster series is reached. Gypsum in thin strata or in fibrous masses occurs in this deposit. In speaking of some wells dug in this deposit, Prof. Vanuxem remarks, Report for 1839, page 252, "All the products thrown out were like those I saw in the digging for salt water in the salt valley near Abingdon, Virginia; and the same products were observed in another well about 55 feet deep on the road to Orville, about one mile east of Syracuse." A reference to Mr. Taylor's description of the strata bored previous to reaching the mineral salt at Abingdon, will show that Prof. V. was correct, also indicate the probable position of the rock salt in the Onondaga country. These two deposits, the red marl and the overlying shales, are remarkable for the almost total absence of fossils, which are so abundant in the series above and below.

In the next deposit in ascending is found not only all the plaster of the district, and of New York, but also "positive evidence that salt has existed in this group in a solid state." In passing from Syracuse to Auburn, by rail road, all that part of the saliferous group above the red marl is passed over, and a most excellent opportunity afforded for examination. In the deposit now under consideration, may be observed in several places, but best near Camillus, masses or beds of crystals in precisely the form assumed by rock salt in crystalization, and formed of clay, giving rise to the impression that these clay masses, now occupy the place of salt crystals previously dissolved out. Dr. Beck in his able Reports has suggested that the form of these crystals may have been produced by the presence of a small quantity of salt once disseminated in the substance of which they are composed. He says—"it is certain this clay is composed of carbonate of lime, silica, alumina, and oxide of iron, but does not contain a trace of common salt."

Above the plaster or gypsum producing strata, is found a thick mass of magnesian limestone. This strata is seen to advantage near Hungerford's plaster beds north of Jamesville, and on the rail road immediately below the great quarry at Split Rock, near Syracuse. Still higher in the series, is the water-limes, the Oriskany sandstone, the beautiful sparry crinoidal limestone of the Onondaga quarries, then a shelly impure limestone, followed by the cornitiferous strata, or limestone filled with nodules of flint, and above these, or the highest of the saliferous group, is the Seneca limestome. These several masses above the gypseous group are of little consequence so far as the salt question is concerned, farther than the proof they furnish of the resemblance of the saline group in Onondaga to the one in Virginia, France, and indeed all those containing mineral salt in all parts of the world.

There are two important questions arising in all discussions as to the probability of rock salt at Onondaga, the first relating to its place in the series, and the second as to points to be selected for boring to discover or test its presence. Since it has been demonstrated that the brine now occupies a reservoir excavated in the red marl, the probability of finding salt by boring into that mass has much lessened. At Cardona, the rock salt lies *on* the red marl, not in it or below. At Vic, the salt was found in contact with and immediately below the gypseous deposit, the mass consisting of beds of salt and thin layers of gypsum interspersed; the underlying rock not ascertained. At Abingdon, where salt has been lately discovered, the salt succeeded the gypseous deposit, and from the surface the rocks penetrated bear a most marked resemblance to those in the saliferous group of New York. As at Vic, the strata underlying the salt is at present unknown, but from the evidence furnished by the mines in Poland, Hungary and Spain, there is little room for doubt that the mineral salt of Vic and Abingdon, will be found to rest on the red marl. Is it too much then to infer that the true place of the mineral salt at the Onondaga and Cayuga salines, is in the mass intervening between the plaster strata, and the red marl, and in which strong proof already exists of its presence. At the mines of Salzbourg in Austria, the salt is in a clay shale, beneath strata of limestone, the whole mass of clay and gypseous shale being a kind of salt rock, but so impure that it requires to be dissolved and crystalized before using. A series of chambers are excavated in this rock, which are filled with water by aqueducts. This water dissolves the salt rock that forms the sides and roof of the chambers, all the extraneous matter settling at the bottom of the chambers, and when the water is fully saturated, it is drawn off through another aqueduct, and crystalized in reservoirs somewhat in the manner in which coarse salt is now made at Salina. May not a similar process of dissolving out the salt strata, be going on at the present time near Salina by the action of natural causes, and thus the phenomena of the 'sinks' or settling of the earth in many places in that vicinity be accounted for? It may be mentioned here that the mass of clay marl from which the salt is dissolved, and which is deposited to the depth of about two feet on the floor of each chamber, is found in a few years to be as fully impregnated with saline materials, as when first acted upon.

If as we suppose, the salt exists in the mass of gypseous shales below the proper gypsum beds, and above the red shales or marls, there can be little question as to the best place forboring. Any one will be convinced of this, who understands the geological position of the strata constituting the saliferous group, and the manner in which their outcrop appears. The proper place

for commencing borings in the hope of reaching mineral salt, if the views here presented, are correct would be in the plaster formations and penetrating that and the gypseous shales to the red marl. Into this we think it would be useless to bore, and yet in this, strange as it may seem, all the rock boring hitherto conducted in the vicinity of the Salines, has been made. The grand error we think in the examinations made for mineral salt at Salina, is found in the fact, that the borings have begun where they should have ended; in the upper part of the red shale mass, and hence have never touched the strata in which mineral salt may be expected to exist.

But if the source of the Salina brines is where we have placed it, the question will doubtless arise, why do not salt springs appear along the whole northern outcrop of this strata from Manlius to Seneca Falls, extending as the strata indicated do this distance, instead of only at Cayuga and Salina? The question is a proper one, and will be best answered by a simple reference to the geological character and position of the saliferous strata.

As before stated, the whole strata of the rock formation of Western New York, has a dip to the south of some 40 or 50 feet to the mile, a dip remarkably uniform and constant, and to which the group containing the salt, does not form an exception. Some of these strata are more porous than others, giving above them a dry friable soil; this is particularly the case with the limestone formations There are others which retain water for a long time, and through which it penetrates with difficulty, if at all. Of this nature is the great mass of red shales in which are the excavated reservoirs of brine. Of its capacity to retain water, the immense swamps scattered over it from Canneseraga to Montezuma, are the best proofs. It is clear then from the inclination of the strata that no springs could be expected at the northern out crop of the strata, as this is invariably the highest part of the formation, so long as the strata had been intersected or cut down through in a perpendicular direction several hundred feet below the line of out crop. This cutting down through the whole mass of the saliferous group has been accomplished at two places, and two places only, viz: Cayuga and Onondaga; and at the latter place the most deeply. In this place the gypsum and gypseous shales have been cut through, and the red shale below excavated to the depth of at least 200 feet, (how much farther not known,) and of course the brine, if its source is in the gypseous shales, would not flow over the rim of the basin to the north, but if we may use the expression, through the cracks in its sides, east and west, at Cayuga and Onondaga. The valleys of the Otisco, Skaneateles and Owasco lakes, where they open to the north upon the Seneca level, have not cut through the gypseous shales to any considerable extent, and not into the red shale or marl at all; this last has only been done at Onondaga and Cayuga, and hence, at these places only, was brine to be expected.

It would seem then, that the source of the brines of Onondaga and Cayuga is to be sought in a position more elevated than the basins the brines occupy; that it was probable this position is the gypseous shale formation immediately below the gypseous rocks; that the currents of brine find an outlet into the deep excavations of the Onondaga and Cayuga vallies, beneath the masses of diluvial matter with which they are filled, at points farther south than has yet been discovered; that the sulphate of lime or gypsum which forms the walls of the canal or bore through which the brine is discharged into the great Salina spring, may be considered as proof of the source of the brine being in gypsum, and that the capacity of holding it in solution has been weakened of accessions of fresh water in its progress from the fountain head, and hence its deposition; and that boring below the gypseous shales or in the red marl, will not result in the discovery of mineral salt.

Such are the conclusions to which we have arrived from a comparison of the saliferous region and strata of Onondaga with those of other places where mineral salt is known to exist. There is every reason to believe that the brines of the New York Salines have their source in beds of rock or mineral salt; it only remains that their true position should be discovered. The immense importance of the subject to the State and to the country, and particularly to the agriculturist, to whom an abundant supply of this article is indispensable, must be our apology, if one could be needed, for the length to which this paper has extended.

Above we have given a section, (fig. 70) showing the geological position of the rocks constituting the saliferous group, from the red shale at the level of the Onondaga lake to the dip of the upper limestones of the formation below the diluvial of the Onondaga valley, some five or six miles from Syracuse. The relative position and general thickness of the strata only has been aimed at, and that these correspond with the facts any one who will cross the strata from north to south or from Onondaga Hill to Geddes may easily satisfy himself. The rail road from Syracuse to Auburn furnishes also an excellent opportunity for examining the position of this group, commencing as it does on the red shale, and gradually rising to the level of the crinoidal mass at Auburn. The section also includes part of the thick mass of Marcellus shales, which overlies the saliferous group.

### Retention of Wool by the Merino.

That the Merino does not shed its wool annually as do the common variety of sheep is well known to every one who has grown the animal; and several instances are on record in this country where very heavy fleeces have been taken from sheep, where the wool was of two years growth. In an English publication of 1839, we find a letter from Lord Western, who has taken much pains to introduce the Merino into that country, and has now a flock of the pure blood animals, as well as a cross of the Merino and the South Down, which he calls the Anglo Merino; in which he describes his experiments in feeding sheep on turneps in yards or stalls, and in which he maintains that a sheep fed in that way does as much better as any other animal does when subjected to the restraining process while feeding. From this letter of Lord Western's, we make the following extract:

"That sheep do not suffer from confinement, I have abundant proof; the Merino rams fight so furiously that I often tie them up like horses in a stall, and keep them there from season to season, and they are as healthy as any that are out, and sometimes get very fat. As a subject of curious experiment, I kept three pure Merino wethers every year in the wool, three successive seasons, from the time of their being sixteen months old, till they were shorn of their three years' fleece; they were never out of their house, and I never knew them otherwise than healthy and in good fleshy condition when stripped of their three years' fleece. I sent one to Oxford that was exceedingly fat, after having a fleece taken from him that weighed 28 lbs. and I shall exhibit another next month extravagantly fat, with a fleece of 30 lbs. weight."

It may safely be inferred, we think, that the pure merino flocks of any country, do not in general average more than three or three and a half pounds per year, nine or ten pounds in three years; while here are sheep yielding three times that amount, or giving for each year's growth of their wool three times as much wool as an ordinary sheep produces. Is this extraordinary growth of wool depending on the treatment of the sheep in folding and feeding? or is the growth of wool rapid in proportion to the time it remains on the sheep, occasioned by the extraordinary secretion of oily matter produced by the mass of wool it carries and the exclusion of external causes from their usual action on the skin? This subject is worthy the attention of farmers; for if such results could be obtained *in all cases* by stall feeding and retaining the wool, without greatly increasing the expenses of keeping, the clip of wool might be materially augmented without adding to the number of animals kept by the farmer. We very much question, however, whether the sheep could endure our hot summers, and remain healthy, if confined in stalls; unless great pains were taken to secure ventilation, and the best food. Still the fact that the Merino can be made to carry such a fleece is a curious one, as overthrowing the general opinion that all animals moult or shed their hair at least annually, and proving the counteracting influence of art or management over nature.

### Fattening Animals.

There are some rules which may be advantageously adopted in feeding animals, which however obvious they may be, are too often passed over, or neglected. Some of these will be specified; and

1st. *The preparation of Food.*—This should be so prepared that its nutritive properties may be all made available to the use of the animal, and not only so, but appropriated with the least possible expenditure of muscular energy. The ox that is obliged to wander over an acre to get the food he should find on two or three square rods—the horse that is two or three hours eating the coarse food he would swallow in fifteen minutes if the grain was ground, or the hay cut as it should be—the sheep that spends hours in making its way into a turnep, when if it was sliced it would eat it in as many minutes—the pig that eats raw potatoes, or whole corn, when either cooked, could be eaten in one quarter of the time now used, may indeed fatten, but much less rapidly than if their food was given them in a proper manner. All food should be given to a fattening animal in such a state, that as little time and labor as possible, on the part of the animal, shall be required in eating.

2nd. *The food should be in abundance.*—From the time the fattening process commences, until the animal is slaughtered, he should never be without food. Health and appetite are best promoted by change of food rather than by limiting the quantity. The animal that is stuffed and starved by turns, may have streaked meat, but it will be made too slowly for the pleasure or profit of the good farmer.

3rd. *The food should be given regularly.*—This is one of the most essential points in feeding animals. If given irregularly, the animal indeed consumes his food, but he soon acquires a restless disposition, is disturbed at every appearance of his feeder, and is never in that quiet state so necessary to the taking on of fat. It is surprising how readily any animal acquires habits of regularity in feeding, and how soon the influence of this is felt in the improvement of his condition. When at the regular hour, the pig has had his pudding, or the sheep its turneps, they compose themselves to rest, with the consciousness that their digestion is not to be unseasonably disturbed, or their quiet broken by unwonted invitation to eat.

4th. *The animal should not be needlessly intruded upon between the hours of feeding.*—All creatures fatten much faster in the dark than in the light, a fact only to be accounted for by their greater quiet. Some of those creatures that are the most irritable and impatient of restraint while feeding, such as turkeys and geese, are found to take on fat rapidly when confined in dark rooms, and only fed at stated hours by hand. There is no surer proof that a pig is doing well, than to see him eat his meal quickly and then retire to his bed, to sleep or cogitate until the hour of feeding returns. Animals while fattening should never be alarmed, never rapidly driven, never be fed at unseasonable hours, and above all things, never be allowed to want for food.

### Blight of the Plum.

It is distressing to witness the rapid advances made by the disease called the black blight, towards the entire destruction of our plum trees. So far as we have been able to observe, the unsightly excrescences that mark the existence and spread of the disease, are much more numerous than ever, and some fruit orchards that have hitherto been mostly or entirely exempt, now show that they have been severely attacked. The cherry is also beginning to suffer, and there is reason to believe that, when the destruction of the plum is effected, that of the cherry will speedily follow, unless prompt and thorough measures are resorted to for arresting the evil; indeed, we can see no reason why every kind of tree, that when wounded, give out juices in the form of gum, should not eventually share the same fate.

There has been some dispute and doubt as to the cause of this disease of the tree, some contending the excrescences were the result of vitiating matters in the soil, a redundancy of juices, &c., while others have maintained that it is the work of an insect, the egg deposited in the wood by the parent, and the larvæ produced from this feeding on the juices and rupturing the bark, gives rise to the escape of matter that should have gone to the promotion of wood, and thus produces the unsightly masses that load the branches, and checking the circulation and vitiating the juices, cause the decay and death of the tree. There can be no doubt that the latter cause assigned, is the correct one. Many have been unable to find the grub in these wounded places, but they probably sought for them at the wrong time. The larvæ does not spend the year in the diseased wood. Like the curculio in the fruit, he only feeds on the juices of the tree until the period of his change into the chrysalis state approaches, when he falls to the ground, which he enters, and undergoes in safety those transformations necessary to enable him to perpetuate the mischief already commenced. We have found the grub in these excrescences most plentifully, from the middle of June to the first of July; some make their appearance earlier and some later, but it is at this time we have found them most easily detected and observed. When the swelling of a branch first shows their presence, the grub is too minute to be readily noticed, and at a later period of the season, he has left the limb for other quarters. Gum appears to be their food, and when that ceases to form, or the elaborated juices have been changed to new wood, the worm is, as is the curculio, ready to leave the tree. On the 29th of June, in a single excrescence cut from a young sprout of plum wood, and from which a large mass of gum had exuded, we observed no less than six larvæ, some of them three-eighths of an inch in length.

Although the name and description of the parent insect is unknown, or not identified, and its habits of course not understood, any farther than can be gained from its works, still enough is known to point out the way of remedying the evil, which, if seasonably and thoroughly adopted, cannot fail of success. It is to cut off the branches infested with the larvæ *while they are in it*, and burn them at once. Some cut off those infected or injured in the spring, or fall, but this does no good whatever; the insect is then safe, and beyond the reach of harm. This has been done because the diseased branches are then more easily seen, than when the foliage is out; but from the time that the foliage puts out, till the middle of July, is the time to examine the tree and save it. Any person can determine whether the grub is present, as during the later stages of his residence in the branch, he is easily seen by the naked eye, and a common hand magnifying glass is all that is necessary at any period. If seen in a plum or cherry, the grub might be mistaken by the inexperienced for the larvæ or maggot of the curculio, but a closer observation would show they are entirely distinct. Let the man who has plum or cherry trees which he wishes to preserve, and who does not fear to lose no time in examining them, and if a single mark of blight is found, let the branch be excised and burned at once. It is possible the insect may have already escaped, but it is possible he may still be in his haunts, and no harm will be done in any event, as a blighted branch will never produce good fruit, any more than a mildewed stem of wheat, will a plump, fine berry. But if too late now, let another season be improved, and from the putting out of the foliage till it falls in autumn, examine your trees, at least once a week, and carefully excise every branch where the disease manifests itself, and be particularly careful to burn them at once. Nothing is gained, if, when the branches are cut off they lie on the ground about the tree, while the grub matures, and again prepares for the mischief of another year. This course would not be so confidently recommended, if instances were not known in which it had proved perfectly successful, and we have no doubt always will prove so where it is properly pursued.

## WORK FOR THE MONTH.

### Wheat:—Time of Sowing.

SEPTEMBER is the month in which our most important crop, wheat, should be sown, as the experience of nearly every farmer proves that putting the seed into the earth in this month, is preferable to any earlier or later sowing. If sown earlier, there is great danger that hot dry weather, such as frequently prevails in August, will prevent the seed vegetating, or give only a weak, spindling plant; while late sowing prevents the plants getting sufficient root, and by making the harvest late, renders the crop more liable to the attack of the rust or mildew. Wheat sown too early is also more liable to be injured by the Hessian fly. Taking all things into consideration, if the land is properly tilled and in good condition, it will be found that from the 12th to the 20th of September will be as good a time as any for sowing wheat. There is a chance of its escaping the fly; it can hardly fail of vegetating; it will get sufficiently rooted; and will come forward at harvest early enough to escape the mildew, unless in extraordinary cases.

### Selection of Seed.

THE selection of seed for the wheat crop, is not sufficiently attended to by most farmers, and the losses consequent on their loose practice in this respect is immense. To this it is owing in a great measure, that our wheat fields are covered with steinkrout, cockle, chess, and the multitude of vile weeds that exhaust the crop, and not unfrequently destroy all profitable cultivation. Bright, plump, clean seed, should always be chosen, and impure, shriveled or discolored seed avoided. We have known some farmers cast their wheat for seed, that is, throw it some 30 or 40 feet, or the length of the barn floor, and as the heaviest kernels will go the farthest, this point is selected for the seed. Others select their seed by taking the sheaves and striking them a few blows across a block or barrel by which the ripest and best seeds will be shaken out to be used for sowing. But whatever course is adopted, let it always be remembered, that as a general rule, the more perfect the seed, the better in every respect will be the crop.

### Change of Seed.

WE have known the very best effects result from a change of seed; such as wheat grown on oak lands, to be sown on beech and maple lands; or from one district of the former to another. The farmers of the counties of Madison, Cortland, and those on the high lands of the south part of Onondaga, were for many years in the practice of getting their seed wheat from the limestone districts of Cayuga county, and the course was a most beneficial one. The object at first was to escape the smut but experience showed that the crop itself was much impoved in quantity as well as quality; and although by the use of liming seed wheat, smut has been mostly eradicated from the district named, the beneficial effects of change of seed are still apparent. Let those who doubt the importance of a change of seed try the experiment of ordering some pure Genesee wheat, to sow side and side with some that has long been grown on the same farm, or the same kind of soils, and mark the result.

### Preparation of Seed.

NEXT to having good seed, in our estimation, is the preparation of it previous to sowing. This should never be neglected. Washing it assists materially in freeing it from all foul seeds, destroying the ova of insects that may have been deposited upon it, and the alkaline solutions which should always be used, act a most important part in aiding the germination of the seed. Among the experiments which have been made to test the effects of various washes or steeps, the following from Young's Annals of Agriculture, and which have been frequently repeated and varied, but with similar effects, may be considered the best and most conclusive.

"December 7th, sowed 14 beds with the same seed wheat, as black with smut as ever I saw any."

| | | Results condensed. | Smutty ears. |
|---|---|---|---|
| Bed | No. 1, | sown dry, nothing done to it, had | 377 |
| " | 2, | washed well in clean water, | 325 |
| " | 3, | " in lime water, | 43 |
| " | 4, | " in a lye of wood ashes, | 31 |
| " | 5, | " in arsenic and salt mixture, | 29 |
| " | 6, | steeped in lime water 4 hours, had | 12 |
| " | 7, | " in lye 4 hours, had | 3 |
| " | 8, | " in arsenic 4 hours, had | 1 |
| " | 9, | " in lime water 12 hours, had | 6 |
| " | 10, | " in lye 12 hours, had | 0 |
| " | 11, | " in arsenic 12 hours, had | 4 |
| " | 12, | " in lime water 24 hours, had | 0 |
| " | 13, | " in lye 24 hours, had | 0 |
| " | 14, | " in arsenic 24 hours, had | 5 |

M. Dombasle, the celebrated French agriculturist, prefers a wash made of Glauber salts, the seed to be soaked in this three or four hours and then dried in caustic lime. This would not be materially different from the practice now so common of washing or rather soaking the seed wheat in brine, and then drying it with quick lime, a practice we can unhesitatingly recommend to every wheat grower. Let the brine be strong enough to float all light or defective seeds, and after a thorough soaking, drain the seed slightly, pour it upon a floor, and dry it with newly slaked lime, as on the causticity of this, much of the benefit of liming is depending. We have tried drying brined wheat with gypsum instead of lime, but so far as the smut was concerned, it was a decided failure. That part of the field sown with the gypsumed seed was about the smuttiest wheat we ever saw, while that part which was limed was perfectly free and pure. In addition to the advantages of liming wheat for the prevention of smut, we are convinced that alkaline substances, such as lime, soda, wood lye, &c., perform an important part in aiding the germination of the seed, by converting the deposit of nourishment which nature has provided in the seed itself in the shape of starch, flour, gum, or mucilage, into a substance suitable for the food of the young plant, more quickly than would be done if not thus aided. Every person who has made the experiment with seeds prepared with lime, and those unprepared, must have been surprised at the difference in the time of their coming up, and the vigor of their growth. Thus beet or turnep seed soaked and part dried in lime, and the other sowed without, has been found to have the advantage altogether on the side of the limed part; and the same result will be had in the preparation of wheat.

M. Maltereu, in a series of experiments on the germination of seeds, found that they germinated much quicker in alkaline solutions than in acids; that they germinate sooner at the negative or alkaline pole of a galvanic battery, than at the positive or acid one; and as galvanic or electric agency is now known to exert a powerful influence over vegetation, it can scarce be doubted that the alkaline agency is exerted in this way in the chemical changes necessary to fit the starch, gum, &c. for the food of the young plant.

### State of the Soil.

THE state of the soil, and the manner of putting in the seed wheat, exercises a great influence on the growth of the plant, and the success or failure of the crop. Unless in the very lightest soils, wheat should never be sown while the ground is wet from recent rains, for though moisture is essential to germination, the excess of it is most injurious. Tenacious soils especially, and those are the best for wheat in which some clay, which gives tenacity, is found, will not endure working while wet, and to sow seeds on such soils, while in that condition, is to throw away the chance of a good crop. The soil for the seed bed should be fine, work freely and without any tendency to compactness, and if the requisite degree of moisture be present, which rarely fails of being the case, the seed will rarely fail of germinating well.

### Covering the Seed.

THAT method of covering the seed will be best which places it most certainly and equally at the proper depth. Wheat will grow in some soils from a much greater depth than in others, but many experiments and experience shows that from 3 to 4 inches in ordinary soils is about the depth at which it succeeds the best. Wheat has two sets of roots, one forming at the seed, and the other near the surface. If the distance from the seed to the surface is too great, the connecting stem between the two sets of roots is attenuated and not strong enough for the vigor of the plant; if the seed is too shallow, the two sets of roots are crowded together, and their extent of space from which to draw nourishment much diminished. We have found those plants apparently the most vigorous in which the length of the connecting stem was about 2 inches; where it was 4 or 5, the effect was clearly injurious. Some farmers use the harrow altogether for covering seeds, others prefer the plow. We think the plow the best where care is taken to give no more than the proper depth, and make the furrows fine. It covers the seed more completely, and ensures a greater equality in the depth than the harrow, but the process is so much the more tedious, that few farmers are willing to use the plow as much as this method requires, and of course prefer the harrow. We have seen an implement made something in the form of an old fashioned harrow, with cultivator teeth placed in it instead of common harrow teeth. These moved the ground to about the required depth, covered the seed well, and greatly facilitated the work. The wheat crop is of so much consequence to the farmer and to the country, that every thing relating to it demands care in selecting the best methods, and continued experiment and well directed observation in the production of the crop.

### Corn for Seed.

SEPTEMBER, too, is the best month for the selection and saving of seed corn. Farmers who have not paid attention to this point of husbandry, are not aware of the difference there is both in the ripening and in the yield of corn, between that in which the seed was carefully selected in the field from the earliest ripe, and most vigorous ears, and that in which the seed though ripe, was taken at random from the crib, without reference to these qualities. There is no plant cultivated, which feels the beneficial effect of selection and careful choice of seed more quickly and fully than Indian corn, and the farmer who neglects this selection and choice, and plants at hazard anything he thinks will grow, sadly mistakes the principles and practice necessary to produce a good corn crop. There are few farmers who plant so much corn that an active man will not select in the field (and that is the only way he can be perfectly certain of the best ears,) in half a day, and secure by tracing up, all or more than he will want. As soon then as the corn is ripe, and the husks separate from the corn freely, select your seed corn and place it where it will be safe and dry. In this way only, can the two great points with the farmer in the cultivation of corn, earliness in maturing and productiveness in the crop, be rendered certain of attainment.

### Virginia Board of Agriculture.

At the last session of the Virginia Legislature, a bill was passed for the organization of a State Board of Agriculture, and in conformity to its requisitions, Lieut. Gov. Rutherford has appointed the following gentlemen to constitute it:

For the division of the State lying upon tide water:

JAMES M. GARNETT, of Essex, and
EDMUND RUFFIN, of Petersburgh.

For the division between tide water and the Blue Ridge mountains:

JAMES BARBOUR, of Orange, and
RICHARD SAMPSON, of Goochland.

For the division between the Blue Ridge and the Allegany mountains:

NATHANIEL BURWELL, of Clark, and
EDWARD WATTS, of Roanoke.

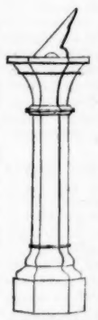
For the division west of the Allegany mountains:

JOSEPH JOHNSON, of Harrison, and
PETER H. STEENBERGER, of Mason

We are glad to see the names of these gentlemen announced in this connection. They are men of talent and influence, well known as eminent agriculturists or deeply interested in its advancement, and the appointment may be hailed as a commencement of a new era in Virginia agriculture. There is not a more decided farming population in the United States than that of Virginia; and blessed as the state is with a fine climate and fertile soil, nothing seems wanting to render her one of the foremost in the quantity and quality of her productions, but a more enlightened and improved system of culture. Through the efforts of a few patriotic and public spirited individuals, much has been already done; the attention of the farmers and planters has been called to the necessity of organization and effort; valuable periodicals devoted to the cause of improved husbandry have been patronized and circulated; and the first legislative action has been directed to the formation of a Board of Agriculture, from which we are authorised to expect beneficial and decided results.

We must be permitted to add, however, that one important point in relation to the organization, action, and efficiency of the Board was either forgotten or overlooked by the Legislature. To perform the duties, the proper performance of the office to which they are appointed will require, will demand the expenditure of much time, and some money; and though the public spirit and liberality of the gentlemen of the Board are well known, still we think common justice required that an appropriation covering at least their actual expenses while employed in the service of the State, should have been made. There can be no doubt but the legislators greatly mistake the true interests, as well as the feelings, of their constituents, if they suppose that a penurious system of legislation on the subject of agriculture, is the one which will be most beneficial or the most approved. The evidence existing in our own country that such is not the case, is most abundant, and further consideration will doubtless correct the error into which other legislatures as well as that of Virginia have fallen.

### Sun Dial.



(*Fig.* 71.)

THIS instrument for measuring time has been known and in use from the earliest ages, and is a common and valued ornament in gardens, pleasure grounds and yards in Europe, but has been comparatively little known or noticed in this country. Our climate is well adapted to the use of the sun dial, the great number of our clear and beautiful days rendering it more useful here, as a correct measurer of time, than in England, where the cloudy days are more frequent. Of late, however, public attention has been attracted to their value and convenience, and we are glad to announce that a manufactory of dials, a correct and beautiful article, has been established by Mr. MOORE, of Kensington, (Ct.) specimens of which may be seen at Henry Rawls & Co's. Albany, and at Geo. C. Thorburn's, New York. In the yard or garden, they should be placed on a neat and firm pedestal, and are very ornamental. We have copied a good figure (71) of such a pedestal, from Downing's new work on Landscape Gardening, from which we extract the following just remarks respecting it:

"Sun dials are among the oldest decorations for the garden and grounds, and there are scarcely any we think more suitable. They are not merely decorative, but have also a tasteful character, and may therefore be occasionally placed in distant parts of the grounds, should a favorite walk terminate there. When we meet daily in our walks for a number of years, with one of these silent monitors of the flight of time, we become in a degree attached to it, and almost look upon it as gifted with a species of intelligence, which looks out when the sunbeams smile upon the dial plate."

We cannot avoid paying, in this place, a well deserved compliment to our friend Mr. WALSH, whose indefatigable labors in the cause of horticulture and correct taste are so well known, as it was his suggestion which called this manufactory of dials into existence.

### Great Meeting of the Royal Ag. Society.

We are indebted to J. C. Etches, Esq. Barton Park, Derby, England, for a copy of the *Marklane Express*, with its "Supplement," and to the Editors of the *New Farmer's Journal*, London, for a copy of their paper and "Supplement," both containing the proceedings of the Royal Agricultural Society of England, at its third annual meeting, which was held at Liverpool, commencing on Monday, July 19th, and occupying the whole week. In the "Supplement" to the latter paper, we have beautifully engraved views (occupying the whole of one of the large pages of that paper,) of the "Plowing Match," exhibiting about thirty teams—of the "Grand Dinner at the Pavillion," at which 2,900 guests were present—and of the "Interior of the Cattle Yard," where were exhibited about 500 head of stock. The first prize of 30 sovereigns, for the best Short Horn Bull, was awarded to Thomas Bates, Esq. Kirkleavington, for "his short-horned bull, 4 years 7 months old, bred by himself." "Whether we regard the interest displayed in the objects and operations of the Society," says the Marklane Express, "the numbers and quality of the stock exhibited, or the extent and character of the exhibition of implements, it is abundantly manifest, that the utility of the Society is duly appreciated by all those who are competent to form an opinion on the subject."

We give the following letter from an English correspondent, the writer of which received at the above show, a prize of "10 sovereigns for the best short-horned bull calf, 9 months old, bred by himself." The letter of Mr. Etches, written in September last, to which he alludes, we regret to say, never reached us:

*Barton Park, near Derby, Aug. 2, 1841.*

Luther Tucker, Esq.:

Dear Sir—Mine of September, in last year, as regards the Berkshire hogs, I have no doubt you have received. With this I send you a newspaper containing a full report of the meeting of the Royal English Agricultural Society, held at Liverpool last week but one. The show of cattle, sheep, horses, and pigs was splendid. To give you an idea of its extent, two thousand three hundreds pounds was received at the door of the show yard. In the list of prizes, you will see my name attached to a bull calf. The largest long-wooled Oxfordshire ram I considered to weigh, if slaughtered, 87 lbs. a quarter. The South Down sheep were splendid; the best ram would weigh, if slaughtered, 45 to 50 lbs. a quarter.

I did not show any pigs; if I had, I have great reason to believe I should have been successful. I have now a new sort, bred in Worcestershire, small and up in their ears, long carcass, good ham, small bone, short face, color red ground with black spots. One of these pigs was kept as well as possible till sixteen months old, killed, and weighed the enormous weight of 33 score and 2 lbs., or 662 lbs. They are called by some, the Tamworth pig; I call them Worcestershire. It is so difficult to trace, with a degree of correctness, the origin of the Berkshire pigs, as the breeders of those animals very much differ in opinion on that subject, I am inclined to think those I have are an improvement on the new Berkshire, yet are sold to me by the breeder as Worcestershire or Tamworth pigs. Their propensities to fatten excel all I have ever seen; they are nice pigs when young, as porkers at six months old, and at nine, twelve, or eighteen months, if fine flesh and fat bacon is required.

I remain, sir, your ob't serv't, J. C. ETCHES.

### South Carolina Agricultural Societies.

We find in the "Southern Agriculturist," a valuable monthly devoted to the cause of agriculture, a list of the agricultural societies in South Carolina, and we give the names as follows:—State Ag. Society of South Carolina; St. Johns, Colleton; Beaufort; Ag. Society of South Carolina; Barnwell Ag. Society; Ag. Association of St. Andrews; Sumpter Ag. Society; Pendleton Ag. Society: Monticello Planter's Society; St. Helena Ag. Society; Cambridge (Abbeville) Ag. Society; Fairfield Ag. and Hort. Society; Wateree Ag. Society; Abbeville Ag. Society; Fishing Creek (Chester) Ag. Society; St. Luke's Ag. Society, and Greenville Ag. Society.

The seven last named societies have been formed within a few months, a fact which speaks much for the increasing intellizence and zeal of the South Carolina planters. Few, if any, states in the Union are more decidedly agricultural than South Carolina, and from the combined effect of these organizations, and the influence of the several well conducted agricultural journals of the state, we are authorized to expect the best results.

### Henrico (Va.) Ag. Society.

We have received from W. H. Richardson, Esq. a pamphlet containing the address of the President of the Henrico Society, with the proceedings, list of premiums awarded, &c., at the agricultural fair of that society, in May, 1841. The proceedings were of the most encouraging and satisfactory kind, and the address, excellent in matter and manner, must have been listened to with much interest. We make room for the following extract, as it contains an important truth well expressed:

"The great mischief, among us farmers, is, that we are in too great a hurry to get rich. We seem to forget that the golden age has passed by, and that we are living under the hard influence of the iron age. We are greatly mistaken too, as I think, as to that in which our true riches consists. One man considers himself rich, because he has a large sum of money to lend, and at an usurious interest, and thus takes advantage of the distresses of the times. Another is accounted rich, because he owns a large amount of stocks in some moneyed institutions. But the farmer's wealth consists not in his stocks, not in his houses, *but in his rich lands.* I recollect when I began farming, an old friend and acquaintance, Mr. John Carter, gave me a piece of valuable advice—'Make your lands rich,' said he, 'and in proportion as they become rich, *you* will be rich.'"

### The Maryland State Ag. Society

Will hold their annual Fair, for this year, at Ellicott's Mills, on Wednesday, the 15th of this month.

### N. York County Agricultural Societies.

The Cayuga Co. Ag. Society was organized at Auburn, July 22, 1841. Officers:

HUMPHREY HOWLAND, Ledyard, President.

VICE-PRESIDENTS.

John M. Sherwood, Auburn; Loring Willard, Aurelius; Isaac Bell, Brutus; L. M. Hollister, Cato; Levi Colvin, Conquest; D. O. Durkee, Ira; Wm. F. Tompkins, Fleming; Matthias Hutchinson, Genoa; Wing Tabor, Moravia; Samuel Bell, Mentz; Isaac Sission, Locke; Geo. R. Brinkerhoff, Owasco; Jonathan Richmond, Ledyard; Mr. Fuller, Sempronius; John W. McFadden, Sterling; E. A. Howland, Venice; Matthias Vanderheyden, Victory; John Sittser, Sennett; U. F. Doubleday, Scipio; Luther Fuller, Niles; Henry Crane, Springport; Martin Barber, Summerhill.

Wm. Richardson, Auburn, Rec. Sec'y.
Wm. C. Beardsley, Auburn, Cor. Sec'y.
John B. Dill, Auburn, Treasurer.

EXECUTIVE COMMITTEE.

Ira Hopkins, Auburn; Thomas Bell, Aurelius; Moses Dixon, Brutus; Silas Dudly, Cato; Enos Witherill, Conquest; Samuel Phelps, Ira; Elijah Sheldon, Fleming; William Wilbur, Genoa; Isaac Cady, Moravia; Joseph Osborn, Mentz; Mr. Sherman, Locke; John Austin, Owasco; David White, Ledyard; Josiah Wilcox, Sempronius; George Cooper, Sterling; William Bennett, Venice; Peter Bogart, Victory; Wm. Webster, Sennett; Joseph Pettit, Scipio; John Rooks, Niles; Peter Yawger, Springport; A. J. Vanarsdale, Summerhill.

Their Fair is to be held on the 2d Wednesday and the Thursday following in October.

The Seneca Co. Ag. Society was organized June 29, 1841. Officers:

G. Y. SACKETT, Seneca Falls, President.

VICE-PRESIDENTS.

Dr. J. L. Eastman, Lodi; Geo. Wodworth, Covert; Andrew Dunlap, Jr., Ovid; Elijah Denton, Romulus; Thomas Burroughs, Varick; Dr. Oakley, Fayette; Joel W. Bacon, Waterloo; Silas Vandermark, Junius; Jason Smith, Tyre; Deming Boardman, Seneca Falls.

A. B. Dunlap, Ovid, Rec. Sec'y.
Samuel Williams, Waterloo, Cor. Sec'y.
John D. Coe, Romulus, Treasurer.

The Washington Co. Ag. Society was organised at Argyle, on the 4th of August. Officers:

HENRY HOLMES, Greenwich, President.

VICE-PRESIDENTS.

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| John Crary, Salem, | James Farr, Fort Ann, |
| J. C. Whiteside, Cambridge, | Harvey Brown, Hartford. |

John McDonald, Salem, Cor. Sec'y.
Asa Fitch, Jr., Salem, Rec. Sec'y.
Ransom Stiles, Argyle, Treasurer.

EXECUTIVE COMMITTEE.

David Sill, Thomas N. Clark, Argyle; Ezra Smith, Edward Long, Cambridge; David Barret, Ralph Barber, Dresden; Anson Bigelow, Aaron Biarker, Easton; James Rice, Andrew H. Moore, Fort Ann; D. T. Payne, J. Stevenson, Jr., Fort Edward; John Barker, Reuben Skinner, Granville; L. Woodard, P. B. Whelden, Greenwich; John P. Adams, Moses Ward, Hampton; Richard Sill, Solomon S. Cowan, Hartford; S. D. Webster, George White, Hebron; Geo. McGeoch, Thos. Stevens, Jr., Jackson; A. H. Hitchcock, L. Andrews, Kingsbury; Alex. Robertson, A. D. Welch, Putnam. John McNaughton, David Law, Salem; S. Barker, James McKie, Jr., White Creek; George Barney, John H. Boyd, Whitehall.

The Delaware Co. Ag. Society was organised at Delhi on the 15th July. Officers:

SAMUEL A. LAW, Meredith, President.

VICE-PRESIDENTS.

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| Levi Hanford, Jr., Walton, | Thos. Hymers, Meredith, |
| George Sturges, Delhi, | John Rait, Bovina, |
| Sam'l W. Andrews, Hamden, | Geo. W. Downs, Colchester. |

David McFarland, of Delhi, Secretary.
Platt Townsend, of Walton, Treasurer.

The Otsego Co. Ag. Society was organized at Cooperstown on the 14th of August. Officers:

DANIEL H. LITTLE, President.

*Vice-Presidents*—Orcut C. Chamberlain, Wm. A. Collins, and Elisha Doubleday.

*Ex. Committee*—J. W. Tunnecliffe, Charles Gilchrist, Calvin Underwood, Jerome Clarke, Jr., and Daniel North.

David L. White, Treas. Cu. McLean, Sec'y.

The St. Lawrence Ag. Society was organized at Canton on the 27th July last, and the following officers appointed:

RICHARD N. HARRISON, Canton, President.

*Vice-Presidents*—Twenty-six, one for each town in the county, were appointed.

*Ex. Committee*—Zenas Clark, Potsdam; S. D. Moody, Canton; D. C. Gray, Lisbon; Wm. Bacon, Ogdensburgh; Harvey Lyon, 2d, Oswegatchie; James Black, Lisbon, and Alfred Goss, Madrid.

Nathaniel S. Prentiss, of Canton, Treasurer.
Charles Lyon, of Oswegatchie, Rec. Secretary.
John L. Russell, of Canton, Corresponding Secretary.

The Westchester Ag. Society was organized at Sing-Sing, Aug. 19, 1841, and the following officers appointed:

LEMUEL WELLS, Yonkers, President.

VICE PRESIDENTS.

Wm. Jay, Bedford, and Nehemiah Brown, Rye.

EXECUTIVE COMMITTEE.

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| Cyrus E. Olmsted, Bedford, | Jos. Schureman, N. Rochelle, |
| Tyler Fountain, Cortlandt, | Gilbert Brundage, Newcastle, |
| D. K. Sherwood, Mt. Pleasant, | Joseph H. Anderson, Harrison, |
| Gerard Crane, Somers, | Edw. B. Underhill, Yorktown, |
| Andrew Findlay, Westchester. | |

Jesse Ryder, Mt. Pleasant, Rec. Sec'y.
Munson I. Lockwood, Mt. Pleasant, Cor. Sec'y.
Isaac Seymour, Peekskill, Treasurer.

The Columbia Co. Ag. Society was organized at Hudson on the 13th Aug. 1841, and the following officers elected:

EDWARD P. LIVINGSTON, Clermont, President.

VICE-PRESIDENTS.

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| John P. Beekman Kinderhook, | Oliver Wiswall, Greenport, |
| Erastus Pratt, Austerlitz, | L. W. Tenbroeck, Livingston. |

EXECUTIVE COMMITTEE.

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| John Martin, of Claverack, | Henry Snyder, of Kinderhook, |
| Seymour Smith, of Clermont, | Abraham Bain, of Copake, |
| Daniel S. Curtis, of Canaan, | Solomon B. Vail, of Greenport, |
| John F. Collins, of Hillsdale, | Waterman Lippit, of Chatham, |
| Jacob N. Harder, of Ghent. | |

Wm. B. Ludlow, Claverack, Treasurer.
James McGiffert, Greenport, Secretary.

A Cattle Show and Fair is to be held at Hudson, on the 2d Tuesday of October next.

### Liebig's Organic Chemistry.

We are gratified to learn, as we do by a letter from Prof. Webster, that a second edition of this work is already called for, and will soon be put to press. Prof. W. will be happy to receive the results of any experiments which have been made on Liebig's principles, such as statements of the substances tried, the crops as compared with those from the usual treatment, &c., to be addressed to him per mail at Cambridge, Mass.

### Berkshire Pig—Acknowledgment.

We have the pleasure of acknowledging the safe arrival of a fine Berkshire boar Pig, from the justly celebrated stock of the Messrs. A. & G. Brentnall of Canterbury, Orange county, N. Y., which we shall consign to the care of H. M. Gaylord, Esq. of Onondaga Co. presuming it will prove a valuable acquisition in improving the breed of swine in that vicinity. His pedigree is unexceptionable, being from the imported "Ontario," one of the most celebrated boars now in the United States, dam "Flower of Orange," from Mr. Hawes' imported stock. It is gratifying to find so much attention paid to improving the various breeds of our domestic animals, and in no case has this been more successfully done than with swine. Let the same skill and attention be directed to our other domestic animals, and the same beneficial results would ensue.

### Agricultural Capital.

What, in the hands of the farmer, constitutes capital, is an important query? With the merchant, cash is the capital, with the land owner, land is the capital, and with the farmer, cash, land and stock, is usually considered the capital. But there are many other items that enter into the capital of the farmer generally overlooked, such as implements, manures, and the most important of all, labor. Capital may be productive or nonproductive. A million of gold and silver locked in a strong box, or a thousand acres of uncultivated land, may be capital, but so long as the property remains in this state it produces nothing, and the owner may be actually growing poorer, instead of becoming richer. Increase of wealth does not depend on the quantity of capital so much as in the use made of it; and in nothing is this more observable than in farming. There is many a man who has commenced his career as a farmer with fifty acres of land; on this he annually expended in manure, labor, &c. twenty per cent, and the produce was perhaps forty per cent. Encouraged by this success, he added to his farm another 50 acres, but his expenditure in capital is not proportionally increased, and the profits are lessened in proportion. Still he has not land enough, and he keeps purchasing land, while he adds little or nothing to his active capital, and the consequence is, while on fifty acres of land, he realized forty per cent, on five hundred acres he realizes nothing. He has converted his productive into unproductive capital, and from his five hundred acres he does not clear as much as he did from his fifty acres, or perhaps he actually falls behind. There is nothing more true than that the inordinate desire for large farms has been the ruin of thousands. It is true that a large farm may be made as poductive as a small one, but there must be the same proportion of capital in manure, labor, &c. put upon it, a thing rarely or never done. That part of the farm upon which most capital is expended is the garden, and this is clearly the most productive and profitable; and so with a small farm when compared with a large one. Let no one therefore desire to possess more land, or undertake the cultivation of more acres than he has capital to manage well. If he does, he will find he is rapidly sinking what little productive capital he possesses, and may become a poor man with the means of exhaustless wealth in his hands.

### Blossom of the Linden fatal to the Rose Bug.

A writer in the Louisville Journal, speaking of the effects of this pest of the florist and gardener, says they are nearly extirpated from his premises, "and seen only at the places of their destruction; these are linden trees when in blossom." He adds—"my first impression was, that the bugs died about the linden tree, after depositing their eggs and terminating their natural career; but such is not the fact; and I now speak with confidence, after several years observation and experience, when I say the blossom of this tree destroys them, and will extirpate, (or nearly so,) the race from its immediate vicinity on the farm on which they grow. * * In rushing to the delicious fragrance and honey of this flower, they precipitate themselves on their own destruction." Of all the American forest trees there is none the fragrance of which is more attractive than that of the linden or bass wood, and none to which bees resort so gladly to collect honey. That this honey should be fatal to some insects and harmless to others, seems rather strange, and if others have observed effects similar to those noticed by the Journal, it would be well to have the facts made known.

### Fair of the American Institute.

Monday, October 11th, 1841, is the day determined upon for opening this celebration to visitors, at Niblo's Garden, in the city of New-York. Contributions from exhibitors will be received on Thursday, Friday and Saturday preceding. All the departments of Industry, Agriculture, Horticulture, Manufacturers, the Arts and Inventions are invited to contribute.

## DICTIONARY OF TERMS

### Used in Agriculture and its Kindred Sciences.

GIRDLING. In the settlement of all wooded new countries, one of the principal obstacles encountered, is freeing the land from timber, or *clearing it*, as it is usually called. By leaving a portion of the trees, much labor is saved, and if these are killed, so that there is no foliage, tolerable crops of wheat can be grown, without their removal. To kill the tree by stopping the circulation of the sap, is the object of girdling. It is effected by cutting into the tree entirely around it, either taking out a narrow chip, or simply striking in the bit of the ax to such a depth as to interrupt the *flow of juices*. The *first* method is pursued with the maple, bass, elm, &c., while the last is effectual with oak, chestnut, &c. The maple, if girdled in the spring of the year, and the cut made in a spiral form around the tree, so as to receive and conduct the sap as it flows into some suitable reservoir, will yield a large supply of sap for conversion into sugar, but it is fatal to the tree. The water elm, or the birch, if treated in the same way, will pour out a continued stream for several days in succession. It is the opinion of many, that trees girdled and allowed to stand until the bark falls off, are more solid and durable than if used without such preparation.

GLANDERS. This is one of the most disagreeable and incurable of the diseases to which the horse is subject; and unfortunately, too well known to need a minute description. The membrane of the nose is the original seat of the disease, and at first is a mere irritation; but as it proceeds, tubercles form, matter is discharged, the bones of the nose and head become diseased and carious, the poison is absorbed into the circulation, and the horse perishes. The disease may be bred, or it may be communicated by contagion, and it is to this cause most of the instances of the disease are to be attributed. Improper stable management is the general producing cause of glanders. Hot, ill-ventilated, filthy stables are often the cause of the complaint; and hence the horses of the farmer, or those on post routes are oftener afflicted with the glanders than those of the man who takes more care of them, and gives better attention to their accommodation and comfort. Nature sometimes effects a cure of the disease, but in nine cases out of ten, confirmed glanders proves fatal in from eighteen to twenty-four months from the attack. There is scarcely a drug which has not been tried for glanders, yet it may be said that all have signally failed, unless we except *iodine* which seems to have effected some cures. It has been proved that the glanders can be communicated to man, and cases have occurred in which death has ensued from the contagion. Those, therefore, who have to deal with this disease, should be on their guard that none of the matter ejected, comes by any accident in contact with the membranous linings of the mouth or nose.

GLUTEN. This is a substance which, although found in vegetables, has all the properties of animal matter, and yields an abundance of ammonia by distillation or putrefaction. Chaptal extracted it from a great variety of vegetables, but it is found most abundant in the grains of wheat, and it is from this that it is most frequently obtained. Gluten is destitute of taste, turns brown in the air, putrefies, as animal matter does, is insoluble in alcohol, and but slightly soluble in water. The wheat of some countries contains more gluten than that of others, and the same remark is true of some varieties. Wheat is mainly composed of starch and gluten, as the following analysis of several kinds of wheat, by Davy, will show:

| | | *Starch.* | *Gluten.* |
|---|---|---|---|
| 100 parts of fall wheat of excellent quality gave of | | 77 | 19 |
| " " Spring wheat | " | 70 | 24 |
| " " Barbary wheat | " | 74 | 23 |
| " " Sicily wheat | " | 75 | 21 |

The fermentation or *rising* of bread is depending on the gluten of the flour, and grain in which the natural condition of the gluten is changed by partial conversion into sugar, as in *grown wheat*, is from this cause unfit for bread. That the value of flour for *bread* is mainly depending on the gluten, is clear from the following analysis of several kinds of grain from Chaptal's Chemistry applied to Agriculture:

| | | | | |
|---|---|---|---|---|
| Wheat contains of gluten in 100 parts, from | | | | 19 to 24 |
| Barley | " | " | " | 5 " 8 |
| Rye | " | " | " | ¼ " 1 |
| Oats | " | " | " | ¼ " 2 |

GRAFTING. This name is applied to an operation for the propagation of fruit, by inserting small branches of the desired fruit tree into one of less value, or the fruit of which it is wished to change. The best place for grafting is the nursery, when the trees are the size of the little finger, but it may be practiced on trees of any age or size; although small branches are always to be preferred. The first operation is heading down the tree, or cutting off the branches it is intended to graft; and care should be used that enough are left to keep up the circulation in the trunk, and shade that from the direct effects of the sun, which otherwise frequently kills the tree. There are several modes of grafting, called whip, cleft, side grafting, &c., which mainly differ in the modes of setting the cion in the stock. March is the proper month for cutting cions, and they may be set as soon as the sap commences to circulate, or the danger of freezing has past. Clay used to be formerly used for excluding the air from the place where the cion was inserted, but the process was a dirty one, and has been superseded by a composition made of 3 parts of rosin, 3 parts of bees-wax and one part of tallow, melted together, and worked like shoe-maker's wax into rolls, or spread on muslin, which is to be cut into strips for use. But in whatever way the wax is applied, it must *exclude the air*, as on this the success of grafting is mainly depending. If the wax is too hard it must be softened before using, but in moderate weather the heat of the hands will usually render the plaster sufficiently pliable. By grafting, we not only secure good fruit, but obtain it much earlier than we could in any other way. There can at the present time be no excuse for poor fruit, as any farmer may practice grafting, and every year is adding to the stock of valuable fruits.

GRAINS. Since the extension of agriculture, and the increase of facilities for transmitting the produce of one country to another, the fear of famines, and the necessity for the great accumulation of grain, or its preservation at any particular points, has mostly passed; still the best modes of preserving grain must always be a question of interest to the farmer. The great secret in the preservation of grain consists in protecting it from the action of air and moisture; a moderate temperature is also necessary. The most common method among the ancients, and it was one which was eminently successful, was putting it into large pits or vaults excavated in rock. Such are what are called Cæsar's granaries, a series of chambers cut in a dry calcareous rock at Amboise on the Loire in France. The Chinese still preserve their grain in pits dug in rock, or firm dry soil, and to protect the grain from humidity, these pits are lined with straw. In France the government have lately instituted experiments on preserving grain in pits or trenches cut in the rock, and carefully closed, and the results, after several year's trial, have been very satisfactory. When St. Louis, King of France, conducted his army through Egypt to Palestine during the crusades, the stores of wheat for the use of the army were collected in Cyprus, the greater part two years before the King's arrival. The history of the expedition says, "the wheat and the barley they had put into heaps in the midst of the fields, and these appeared like mountains, for the rain had moistened the grain a long time, and caused it to germinate on the outside, so that nthing was seen but the green surface. In removing this grain to Egypt, when the outer crust was removed from the heaps of grain, the wheat and barley was found as fresh as if newly piled up." Grain well dried and put up in stacks at harvesting, or in mows, will keep much better than if thrashed and deposited in common granaries, the chaff of the ear serving to absorb the moisture which is most injurious to the grain.

GRANARY. A place in which grain is deposited. Some idea of the ancient granaries may be formed from the preceding article, and from the descriptions given in the Bible of those in Egypt. In modern times, granaries are chiefly used to store the necessary supplies of grain for the year only, or until it can be brought to market. The air in and around granaries should be free and pure, not in the vicinity of stables, or any other vitiating cause; they should also be dry, as on this the sweetness of the grain will mainly depend, and they should be free from all rats, mice, and other vermin. It is better, therefore, where much grain is raised to have the granary separate from the other farm buildings, and built in such a manner that depredators like those named can find no entrance. To prevent the entrance of rats, great attention must be paid to the foundation; or which is still better, let the granary be placed on posts of wood or stone, two feet from the ground, the tops of these to be capped with a projecting board or flat stone to impede their ascent. In this way the only place of approach is by the steps and door, and this may be secured with sheet iron. Granaries should be cleaned annually to prevent the attacks or lodgment of the weevil, which sometimes commits extensive ravages in large deposits of grain.

GRASSES. Next to the cerealia grown as food for man, the grasses intended as herbage or forage for animals, are the most important objects of cultivation. The varieties of grasses are almost innumerable, but the few that have been ascertained as proper for cultivation, and sufficient for all the purposes of the farmer, may be named as follows;—Meadow catstail, or Herd-grass; Red top; Rough stalked meadow grass; Orchard grass; Smooth stalked meadow grass; Rye grass; and White and Red clover. These will be sufficient for a rotation with grain crops, or the formation of permanent meadows or pasture. One great fault in the cultivation of grasses in the United States is, there is not seed enough sown. The consequence is there is no sward formed for pasture; and between the scattering plants, weeds spring up and propagate rapidly.

To show how differently English farmers manage, we copy from Prof. Low's Agriculture the quantity and kinds of grasses used per acre, for temporary, or for permanent stocking.

*Land to be only one or two years in grass.*

| | |
|---|---|
| Rye grass | 17 lbs. |
| Herds grass | 3 " |
| Red clover | 6 " |
| White clover | 2 " |
| | 30 lbs. |

*For permanent meadow or pasture.*

| | |
|---|---|
| Meadow foxtail | 3 3-4 lbs. |
| Herds grass | 1-2 " |
| Orchard grass | 8 lbs |
| Meadow Fescue | 2 " |
| Rough stalked meadow grass | 3-4 " |
| Rye grass | 12 " |
| Red clover | 2 " |
| White clover | 6 " |
| | 32 |

The Herds grass (*Phleum pratense*) is the most valuable of our grasses at the north, while in the west Blue grass is preferred. But for a rotation, where the growing of grain, or the permanent enriching the soil is the object, the clovers are unrivaled, and indispensable. Clover and plaster may be considered the basis of convertible husbandry.

GRAVEL. Stones from the size of a pin's head to those of two or three pounds weight, are termed gravel, and the greater or less quantity of them in the soil, as well as the kind of rock of which they are composed, has a great influence on the fertility and cultivation of land. If the gravel is course, and the particles slightly connected, the soil will be what is called hungry, as manures put upon it sink among the porous materials, and produce little or no effect on crops. On the contrary, if the gravel is finer, or sufficiently filled with other earths and vegetable and animal matter, it constitutes one of the most valuable of soils, and is particularly excellent for wheat and clover. Gravelly soils are very apt to be too dry; but unless very coarse, the incorporation of clay will have a beneficial effect, by rendering it more retentive of moisture, and consequently giving it more support to the crop. Under the influence of the doctrine promulgated by Tull, that the finer the particles of the soil the better it would be, some farmers in England sifted some of their soils, and carried off the gravel so collected; but the effect was found to be most injurious, as the soils speedily became too compact for profitable vegetation; the experiment was abandoned, and the pebbles returned to their original place.

GREASE or SCRATCHES. This is a disorder to which horses are subject, and only affects the skin of the heel. As there is much motion and tension to this part of the leg, it was necessary the skin should be very pliable and soft, and to ensure this, nature has provided a secretion of greasy matter which is absorbed by the skin at the heel, giving it a sensible greasy feel, and prevents in a healthy state the crack or roughness of the part which would otherwise ensue. Under ill treatment, or bad stable management, inflammation takes place, the secretion of grease is stopped, a dry and scurfy state of the skin succeeds, cracks of the skin show themselves, and swelling and lameness ensues. According to Youatt, "if cracks are slight, a lotion composed of a solution of two drams of blue vitriol, or four of alum in a pint of water will often speedily dry them up and close them. But if the cracks are deep and the lameness and inflammation considerable, poulticing will be necessary, and one of linseed meal, or of carrots boiled soft may be used. After the inflammation is checked, the heel may be dressed with an ointment composed of one part rosin and three of lard melted together, and one part of calamine powder added when these begin to get cold." Occasionally wetting the cracks with the vitriol solution will expedite the healing. Some farmers use an ointment made of grease and sulphur, which is rubbed in, the hair being first clipped. Sometimes from careless management, or inattention, the cracks degenerate into deep sores, fungus springs upon their edges, which dries and assumes a horny form, and is known by the name of *grapes*. The grease is supposed to arise from the filth and urine of the stable acting on the tender skin of the heel; yet some horses are more subject to it than others in any situation. Care is the best preventive, and as this has banished the disease from the cavalry of most nations, it would doubtless prevent its recurrence among farmer's horses where it is most injurious.

GRUB. This name is applied to the larva of several species of insects, of which those the most injurious to the farmer are the larva of the May bug, (*Melontha vulgaris*) and snapping bug (*Elcater segetis*) called the *white grub* and the *wireworm*. The first occasions at times great damage in grass lands or meadows, eating off the roots so that large pieces of turf may be rolled up like carpets. The larva are eagerly sought after by hogs, and whole fields are sometimes rooted over to obtain them. They sometimes occasion much injury to corn and wheat, but they are seldom numerous enough to effect much. The larva remains in the ground three or four years, when it is transformed to the perfect insect, and makes its appearance after sun down as the common May bug. It is quickly attracted by light, and the best method of destroying them is to build bright fires of brush or other materials on those few evenings in which they appear, when they will perish by thousands. The wireworm does much more injury than the white grub, as it attacks the roots of most cultivated plants, and when numerous, will destroy whole fields of corn or spring grain, and we have known it commit serious depredations on the potato. The most effectual method of destroying this grub, appears to be the adoption of fall plowing as late as possible, or after the grub becomes partially torpid. In this way multitudes of them are thrown up to the effects of a cold which is fatal to them.

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Educate a community in the idea that to work with their hands is degrading and dishonorable, and you educate them for vice and misery.

# Correspondence, Inquiries, &c.

### Rearing Poultry.

Mr. WESTFALL, of Rhinebeck, who at page 116 of the 7th vol. of the Cultivator, furnished a cure for the gapes in chickens, in a communication in February last, (but which was mislaid,) thus gives his further experience in raising poultry:

"I have again alluded to this disease, the gapes in chickens, in hopes that you, or some of your able and scientific correspondents would give some light upon the origin of the worm in the throat that causes it. Did we but know from whence it came, a great point would be gained, as we might then make a "stitch in time save nine." From 45 hens, I have the past season (1840) raised more than 150 chickens, although I had rather poor success in hatching the eggs. I have sold eggs to the amount of $21.29; have now over 300 on hand, and the year since the receipt of the first egg last spring will not be up till the last of this month, and we are now getting from 20 to 25 per day, from about 80 hens. The question may be asked, why I am getting eggs now, but got none last winter! The reason, I doubt not, is this. A year ago I fed them oats in sufficient quantity to keep them through the winter only, thinking it useless to attempt making them lay in cold weather. This winter I have fed them about as much corn as they could eat, over a peck a day, and believe I have sent that proportion of corn to a profitable market. I have no doubt the value of the eggs produced from the last of December to the last of February will more than pay for the food consumed, and say nothing of the value of the manure. I give them access to a box of pounded clam-shells, sand and lime, for them to pick and dust themselves in. I make use of artificial nest eggs, so few of the eggs get froze."

### Productive Farm.

Mr. WESTFALL gives the following as the products of his farm of 126 acres, woodland included:—1,000 lbs. butter, and 300 lbs. of cheese, and 2 calves, sold from 9 cows—amount of sales $171.42. This was exclusive of milk and butter for a family of 8 persons. 700 bushels of potatoes; 150 bush. of beets; 100 bush. ruta baga; 145 bush. buckwheat, from 4 bush. sowing; 85 bush. wheat; 350 bush. oats; 350 bush. rye; 450 bush. corn: 55 barrels of winter apples and 25 barrels of cider; and sold pork to the amount of $118.13, principally fed on potatoes, pumpkins, and apples boiled. This is a respectable list of products, all will admit, but the expenses of cultivation should also have been stated, to give a full view of the matter.

### Urate.

G. W., of Richmond, (Va.) makes the following queries in relation to the account we gave in the July No. of the Cultivator of the European mode of making this celebrated manure:

"Can this manure, when made according to the directions there given, and reduced to powder, be barreled up and kept for use in the spring?"

When the ammonia of the urine becomes fixed, as it does when mixed with gypsum, it may be kept for any length of time, as it is lost only by moisture and solution. The carbonate of ammonia in this case is changed to sulphate of ammonia, and ceases to be volatile. See Liebig's Organic Chemistry, page 238.

"Will the urate made from recent urine be better than that made from putrid urine?"

When Madame Daboul commenced the manufacture of urate at Paris the liquid used was fermented, and it is probable that an incipient putrefaction would be preferable. The pungent odor arising from putrified urine is, however, proof that the ammonia is escaping, and this must be arrested, or the most valuable part is lost. G. W. will find much to guide him in this matter, in Liebig's chapter on Ammonia from Urine.

"Will the application of urate to wheat prove beneficial? If so, when is the best time to apply it, in the fall or spring season?"

Urate may be applied to the growing crops at any time with success. *Poudrette*, and all the preparations of night soil, derive their principal value from the fixed ammonia they contain, and the same rules that govern the application of these or other powerful manures, may be followed with urate. In France urate is applied to root crops by the drill, at the time the seed is sown; to grain crops it is applied either as a top dressing in the manner of gypsum, on the growing plants, or at the time of sowing the seeds.

As the preparation and use of this powerful manure is comparatively new, much is yet to be learned by the agriculturist respecting it; and the proper quantity per acre can hardly be ascertained except by actual experiment. Poudrette has been found in some instances, when applied too liberally to wheat, to produce so much straw as to render the crop of little value; and urate, applied injudiciously in France, produced similar results. The experiment making by "G. W." is an important one, and we wish him every success.

### Chess.

A desire to oblige our friends who are believers in the doctrine of transmutation, and the hope of throwing some light on this vexed question in farming, induces us to give the following communications, or the substance of them, on that topic. We do not deem it necessary to offer any comments, perceiving nothing in either case which may not be explained on well known principles, and by well known causes, without reference to the change contended for. Perhaps it would be better for those who hope to receive Mr. Ruffin's premium of $100, to present their evidence directly to him.

Mr. FINLEY of Oswego, in 1833, prepared five acres and sowed them the middle of September, with good sound wheat. He then prepared three acres of corn ground and sowed it with fine Genesee wheat weighing 62 lbs. to the bushel, the last week in November. Both looked well in the spring, but the late sown promised to to give the best crop. In the fore part of August, the first sown had a plump berry, and the straw began to turn yellow: the late sown was still green, the berry soft, and apparently three weeks later than the other. At this time there was an extraordinary exhibition of electricity, rapid flashes of light proceeding the whole night from one cloud or another, without either thunder or rain. [Vespertine lightning, probably.] Mr. F. had heard that such lightning, accompanied as this was with a close hot air, was injurious to wheat, and found it so in his case, the late sown appearing to ripen almost at once; and while the early sown wheat gave a plump berry and a good yield, the late sown was so shrunk that the millers would not purchase at any rate. By the advice of a farmer, Mr. Finley used this shrunk wheat for sowing eight acres of well prepared land that year, and put it in in September. It came up well and looked promising; but in the spring instead of a broad healthy blade, it was small and narrow; in short it was all chess, and Mr. F. had it cut with a sythe and made into hay. Mr. F. says:

"I am decidedly of the opinion of your Ontario Subscriber, that sowing sound plump wheat will not yield any chess;—and my opinion is, that chess is not produced by frost, but the transmutation is caused by other atmospheric influences."

The following is from GARRET BERGEN, an eminent practical farmer of Brooklyn, L. I.

"Wheat is only apt to change into chess in certain places about a common farm, and with many it is never placed in such situations. Hence their escape, and their disbelief. Sow your grain adjoining your barn yard, and allow a flock of fowls to frequent it in the spring and fall when it commences to grow and prevent it from growing rapidly—in other words to keep it down without killing it—and if it escapes in all cases being changed to chess, it will be contrary to much of my experience. To silence objections being made that the fowls carry the seed there, and thus introduce the Chess, I will give you another case where the objection cannot apply. Sow your grain distant from your barn, on a field which contains small valleys or hollows in which the water remains standing late in the spring, so as to prevent the wheat taking as early a growth as the adjacent parts of the field; and in many cases, the grain in these hollows will be entirely changed to chess. This Messrs. Editors, has been my experience frequently, and the result of observation for upwards of 50 years, and I can assure you that I have been in the habit of sowing *clean seed*. I take the cause of transmutation, therefore, to be a hindrance to the growth of the grain in the spring, when the weather has become sufficiently warm to cause what is placed in more favorable situations to grow and flourish.

### Improving Stock—Inquiry.

"MESSRS. EDITORS—As I am a young farmer, and wish to commence improving my stock, having heard much about 'Herd Book Cattle,' and 'Cattle without pedigree,' and yet remain in the dark on the subject; I will consider myself much obliged if you, or some of your correspondents will give the desired information on these points in your valuable paper, as I wish to start in the right road, and doubtless many others wish the same. A SUBSCRIBER."

*East Windsor, Ct.* 1841.

Since the increased attention to the improving of cattle has taken place in England, and particularly since the Collings, Berry, Althorp, &c. have effected such wonders on the Short Horn breed of cattle, in order to prevent imposition, and show that the animal was of the improved breeds, a list of all the principal herds of this stock, those that could claim an undoubted descent and purity of blood, were collected by Mr. Coates in a volume, regularly numbered, and breeders of pure stock, that is those derived from the herds of the gentlemen named, or which can be directly traced to them, are in the habit of naming and numbering all such choice animals as are kept for breeding or are worthy of particular notice, and these recorded in the successive editions of Mr. Coate's book; are termed Herd Book cattle. In the hands of Mr. Collings, the bull Hubback may be considered the founder of the Improved Short Horns, and all of unquestionable purity of blood can be traced to the herds originating from him. Pedigree means nothing more than the list of animals through which the sire or dam or both have received their blood for several generations; and by tracing the breed through these, the value of the stock, and purity of the animal may be easily determined. In improving stock, it is very desirable to begin with animals in which the desired qualities that constitute the value of the breed, whether it be form, aptitude to fatten or milk, have become constitutional, and therefore permanent. Animals of the common beeeds are sometimes found embracing some or all these qualities, but they are accidental, are not types of the race, and the progeny is therefore frequently wholly unlike the parent. With Herd Book animals the case is different. Skillful selection and careful breeding for generations has rendered the desirable qualities of the improved stock constitutional and permanent. If the pedigree of an animal is good, that is, if the Herd Book shows a descent from the best animals, there is little or no danger that the stock will prove inferior, or as the phrase is "run out."

### Cisterns—Inquiry.

OUR correspondent "P." of Ohio, referring to the method of building cisterns described in the Cultivator, vol. vii. page 61, asks whether "if pebbles and good sand cannot be procured, a water proof wall could be made of lime alone?" He says, "this country abounds in lime, (whether any is hydraulic, I cannot say,) much of it containing a large portion of silex. It also contains abundance of *yellow* sand, but no beds of gravel, pebbles, or white sand, that I am acquainted with. If you can give the desired information through your paper, it would doubtless be acceptable to many of your readers as well as to myself."

One of the best cisterns we have ever seen was made of limestone, the walls cemented with good common lime mortar, and then the wall plastered over with a thick covering of the same. In this way, great care must be taken in laying the walls, as it is frequently found that the mortar will settle from the under side of the stones, and leakage be the result. Broken limestone would answer the same purpose as pebbles, if the mode of building recommended in the Cultivator should be preferred; but it must be remembered that ordinary lime mortar requires a longer time to set, or harden, than hydraulic lime, and if water is admitted before this operation has taken place, it will never be performed perfectly. The color or kind of sand used is of little or no consequence, provided it is *clean* and *sharp*; on these things much of the strength and hardness of any mortar is depending. Unless we are mistaken, hydraulic lime is found in abundance on the line of the Ohio canal, and with that mortar and broken limestone, in the room of pebbles, cisterns of the best quality could easily be made.

### The Bloody Murrain.

MESSRS. EDITORS—On the morning of the 26th June, I discovered that the urine of one of my cows appeared to be very highly colored, and upon examination found it to consist principally of blood. In a short time she commenced trembling violently and fell, and appeared to be convulsed, after which she recovered enough to rise. Her discharges became more frequent, and gradually turned darker colored, until they became almost black, and in a few hours she died.

On the morning of the 4th of July I again discovered another, and my last cow, in the same situation as the one I have mentioned, and upon examining the Cultivator, I found the disease to resemble the murrain, as described by Mr. Cookson in the Cultivator, vol. 5, No. 5. There was a very slight discharge of blood from the bowels. I gave her tar as directed by Mr. Cookson, but it did not produce any good effect; she continued to linger, and on the following morning was much worse, being so stiff in her joints that it was with difficulty she could walk. I gave her another dose of tar, hoping it might relieve her, but she died in about two hours afterwards. Upon examining her intestines, I found her bladder to contain about two quarts of blood, her gall duct was very much distended, and contained a quantity of thick blackish matter; her horns were a little hollow. It may be proper to add, that we have had a disease among our cattle here during the winter and spring called the hollow horn, or horn distemper. Both of the cows that I lost were in fine order, having grazed alternately upon clover and salt marsh. Should you, or any of your numerous correspondents, know what this disease is called, you will greatly oblige a subscriber by publishing it, and the remedy also if any is known, as I fear it will destroy my entire stock of cattle, it appearing to be the most fatal disease I have ever known.

*Nansemond, Va., July*, 1841. WM. J. WRIGHT.

REMARKS.—The above are well characterised cases of bloody murrain, a disease which, as it appears in this country, would seem to be unknown in Europe, judging from the best works on cattle published there, such as Lawrence's Graziers' Guide, and Youatt on cattle. The cause of the disease does not appear to be well understood, but the rapidity with which it reaches a fatal termination renders it one of the most formidable diseases the cattle breeder can encounter. As is usual in the case of such diseases there are a variety of cures, and as some of them may be useful, we give a few that have been communicated to us, adding our opinion that none of them can be relied on as a specific, but that the safe course will be found in prevention rather than in the cure.

A correspondent of the Gen. Farm. vol. 6th, page 81, says that a decoction of the green leaves of mullein may be considered a certain cure. He took a quantity of the leaves of the mullein, steeped them in new milk and gave 3 quarts of the tea to an ox dangerously sick, which produced an immediate cure; and a cow attacked by murrain was afterwards cured in the same way.

The Hon. Dan Bradly communicated the following, as a remedy practiced with great success in western Pennsylvania. "Mix together half a pint of spirits of turpentine with a pint of sweet milk—put this compound into a bottle, and after shaking the bottle pour it moderately down the throat of the animal. Soon after this is done, give physic." Salts would doubtless answer as physic, and some discretion might be advisable in apportioning the dose to the size or age of the animal.

Mr. Priestman recommends a half a pound of poke root washed clean, cut fine, and boiled in two quarts of water until it is reduced one half, then turn it down while warm. The dose to be repeated once a day till the cure is complete.

Mr. Sheldon, of Michigan, cured an ox violently attacked, by mixing half an ounce of copperas and half an ounce of alum, dissolving them in hot water and while warm turned it down the animal. In 12 hours he was better, and a repetition of the dose cured him, though for a time weak from the great discharge of blood.

It is stated in the Franklin Farmer, that several cases yielded to two doses of sugar of one pound each, mixed with water. Some animals in the last stages have been cured by this simple remedy.

As we remarked before, however, we have more confidence in preventives than in cures. It is the opinion of many of the most intelligent men in districts where the disease is common, that it arises from bloodsuckers imbibed with stagnant waters, as these animals are most frequently found on dissection; but whether the opinion be correct or not, there can be no doubt the use of stagnant water must be injurious to the health of any animal and predispose it to disease. A farmer in Madison county, Ohio, after suffering many losses from murrain became convinced the cause was in the

water they drank, (bloodsuckers being abundant in it and found in cattle after death,) provided his stock with a supply of pure water and in five years not a single animal had been attacked.

Next to pure water, a regular and constant supply of salt may be considered the best preventive of disease in cattle, and if a quantity of ashes or lime is mixed with the salt, the effect will be still more beneficial. For proof of this we refer to the Cultivator, vol. 6th, pages 120 and 149. In the first case, Mr. Warner found that wood ashes given in equal quantities with salt, at the usual times of salting his stock had for 20 years operated as an effectual preventive; and in the latter instance Mr. Sackett, of Michigan, had for eight years secured his numerous stock of cattle by keeping in their troughs, so that they always had access to it, a mixture of equal portions of slaked lime and salt. The lime was kept in a barrel in a dry place, air slaked and always fit for use. Previous to adopting this course, he lost many annually by murrain, afterwards none. To conclude; pure water, and plenty of salt mixed with some alkali, ashes or lime, we consider the best remedies or rather preventives of the murrain.

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### New-Jersey Marl—Inquiry.

Mr. James Boyle, of Annapolis, (Md.) wishes from some one acquainted with the subject—

"An account of the Jersey marls, the easiest and best modes of digging and hauling, the usual depth of the pits below the surface, how to raise it from the pits, the mode of application on stiff and on light lands, the vegetation it best suits, and how much (if any) lime is mixed with it after digging before using."

The matter of these inquiries is an important one. Marl like that of New-Jersey, or closely resembling it, is found on a very large portion of the seaboard of the middle states, and from the wonders it has wrought in New-Jersey, it is evident might be successfully used on similar soils farther south. May we hope that some of our friends in New-Jersey, who have a practical acquaintance with the marls, their position, nature, and use, will respond fully to the inquiries of Mr. B. We should be happy to give place to such a paper in the Cultivator.

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### Milk House—Disease in Fruit Trees.

Messrs. Editors—Cannot some one of your ingenious and experienced correspondents furnish a plan for building a milk room; one that will combine convenience and neatness, and above all ensure the longest time of keeping milk sweet in hot weather, and also keeping it from freezing in cold weather. I have never seen any plan of such a building. As I shall have to build soon, I wish to obtain the best method before commencing. I have been much gratified with the plans of houses, barns, &c. which have made their appearance in the Cultivator at different times, and have drawn my plans chiefly from them; but I have been at a stand as to the best plan for a milk-house, with the qualities above mentioned. I should think some of the proprietors of the milk establishments near the cities, who carry their milk to market, might give the desired information, as I intend and have already commenced an establishment of that kind. Shall I build below or above ground? With what material, brick, wood, or stone?

I perceive that my fruit trees are infected with some disease, which I have no name for unless it is the scab. The bark on the limbs turns black, cracks, and at length withers the whole branch. Sometimes it occurs on the body, and kills the whole tree. I have tried to ascertain the cause, but not being much acquainted with fruit trees, was unsuccessful. An insertion of these inquiries will oblige A Young Farmer.

*Burlington, Vt.*, 1841.

We have several plans of milk and dairy houses in the British Husbandry, and the writings of Dr. Anderson; but as the plans are complicated and expensive, we shall omit them for the present, in the hope that we shall be furnished with plans better adapted to our climate, and the resources of the common dairyman. A few hints on the construction of such buildings may, however, not be unacceptable.

The first and great requisite in a milk house is an equal and low temperature; the second is dryness; and the third perfect neatness. The easiest way of ensuring the first would be to place the milk room over a pure and copious spring of water. This would prevent undue heat in summer, or freezing in winter, and many milk houses are so constructed. But experience shows that where making butter is to be a part of the dairy business, a *dry*, as well as *low*, temperature is necessary to produce good butter, and hence in the best dairies of Holland and England particular reference is had to this point, all water except such as is required for cleansing being excluded. To produce an equal temperature, and at the same time low, it is necessary the milk apartment should be as little influenced by the external air as possible; for this purpose walls of great thickness, 6 or 8 feet, are recommended, the windows and doors double, and the buildings to have a northern and eastern aspect. The roof, too, must be made so as to prevent the heating effect of the sun's rays from being felt in the milk room, which is greatly aided by having trees of heavy foliage around it; and in this manner the temperature of the milk room itself, whatever may be the heat externally, will be little effected. Dr. Anderson recommended that the inner wall should be of brick, one tier, and neatly plastered; as also the window and doorways; while the main body of the wall should be of earth, with an inclination which would admit of its being turfed to the eaves; and some built on his plan, walls 8 feet at the base and 4 at the eaves, proved admirable for the use intended. In our climate, double, or thick stone walls, would probably be better than earth. The floors of milk rooms should be dry, and of materials that will not absorb and retain what falls upon them, whether it be milk or water. Bricks are sometimes used, but they are hardly smooth enough; flag or good paving stone are better, if cut to good joints; and perhaps a floor made of cement, the sand pure and white, and the whole of suitable thickness, would make a first rate one. In the best European dairies and milk rooms, ventilation is performed by having the windows or a movable pannel of the doors provided with a fine wire screen, so that when the wind is in the right quarter, or of the right temperature, air can be freely admitted and all insects, &c., excluded.

We are unacquainted with any disease of fruit trees resembling the one described by our correspondent. It would seem to be a kind of gangrene, as described in the English horticultural works by Knight, McIntosh, &c. Diseases of this class are attributed by these writers to a bad, wet subsoil, and the remedy to be in a correction of this evil. It is possible this disease may, like the fire blight of the pear, or the black blight of the plum, be the work of an insect; if so, a careful examination will doubtless detect it.

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### Recipes, &c.

Mr. Gray, of Trumbull Co., Ohio, informs us that a gill of melted lard turned down the throat of a sheep is an effectual remedy for that animal when poisoned with the low laurel, which abounds in some parts of the country.

"It will also cure persons that are poisoned with the vine called running ivy, or mercury, frequently found on low meadows, by rubbing it on two or three times, whenever its effects are felt."

"To cure the bloat in cattle, take about half a lb. of salt pork that is fat; cut it into slices, and draw out the animal's tongue, and place the pork as far down the throat as possible, when it will be swallowed, and relief soon be given, if the bloat is caused by clover or fresh grass. I have known from 1 pint to 1 quart of melted lard (according to the size of the animal,) turned down the throat, used with the best effect in cases of bloat."

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### Smoking Fireplaces.

"H. E. S.," of Bloomfield, (Ky.) sends the following hints on the construction of chimneys so as to prevent smoking:

"The best means of preventing that pest, smoking fireplaces, is to build so as to produce a *strong steady draught*. The air in the chimney is rarified by the heat from the fire, and consequently rises; the air in the room fills up the partial vacuum, and a current is established. To insure a draught in the chimney, the air entering it should be heated as much as possible. This is done by having the mantle or front of the fireplace low; this will force the air nearer the fire, and of course cause it to rise with more velocity, because it will be heated more than in a high front fireplace. The back should be of the same height as the front. If a tight room has a large fireplace and chimney, it will smoke, because there will not sufficient air enter the room through the crevices of the doors and windows to produce an active draught up the chimney, and the cooler, heavier air on the outside will reverse the current, and force the smoke down into the room. Long chimneys usually have a stronger draught than short ones, as the column of rarified air is longer, but they may be made so long as to cool the air before it reaches the mouth of the chimney; for this reason, very long stove pipes smoke more frequently than pipes or chimneys that are shorter. It is necessary also that the interior of a chimney should be smooth, so as to present no impediment to the smoke."

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### Manure on Grass Lands in Indiana.

There seems to be an opinion somewhat common that manure is useless in the western states, such is the natural fertility of the soil. The statement we give below, from Mr. Cadwallader, of Indiana, would seem to prove that manure loses none of its efficacy or value on western lands:

"In 1836, I bought a tract of land so poor that it would hardly sprout blackeyed peas. I immediately, as the best way of restoring fertility, put it into grass; but the first year it was not worth any thing. In 1838 and 1839, I top dressed the ten acres seeded down with two coats of manure, and in 1840, I, after the army worm had taken about half of the crop, sold hay to the amount of $62·37, besides putting six tons in my mow."

We shall be pleased to learn the results of any comparative experiments making by Mr. C. in the culture and manuring of potatoes.

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### Sawdust—Planting Trees—Johnswort.

"A. W. L.," of Hempstead, L. I., in a communication says:

"My predecessor was in the habit of putting large quantities of sawdust, straw, &c., in his pig pen, let it get thoroughly incorporated and rotten, and then use it as a manure. On the purchase of the place last spring, I found on it a quantity of this sawdust manure, horse manure, and long manure; which three kinds I separately put in different parts of my corn field. The result is this: the part with long manure is very poor, (by the way would not poudrette help it?) the horse manure good, and the sawdust *first rate*."

This method of using sawdust has been practiced by the Shakers with great success. Rotted sawdust of itself would be a good manure, but put in a pig pen it not only decays, but it absorbs and retains much of the most valuable part of the manure, that would otherwise be lost. Of the great value of hog manure for the corn crop there can be but one opinion. It is decidedly superior to any or all of the ordinary manures for this crop, and a farmer should use every exertion, by frequently replenishing his pig pen with refuse matter, to increase the amount, or prevent waste.

"A. W. L." will find the treatment he proposes of his Johnswort a good one, (that is, to cut the plants, rake and burn them, plow in the fall, plow in the spring, and plant corn and potatoes,) if he hoes his crops as they should be hoed for a cleansing crop. We once treated a field in a similar manner, following the hoed crop with a grain one and a heavy seeding with clover and herds grass, to which plaster was liberally applied, and with the best results, the Johnswort having scarcely shown itself on the ground since.

The trees about which "A. W. L." inquires, "nut and oak," can be readily transplanted, but more care is required in removing them, and greater care in giving a congenial soil. Forest trees, particularly the oak, have usually long tap roots. When such are removed, therefore, as large a ball of earth should remain on the root undisturbed as is possible. Stuart, in his work on planting, shows that the largest trees, and of any kind, may be removed, if this point is sufficiently attended to.

"A. W. L." says, "last year, in killing some fine Berkshire pigs, I expressed a wish that they were whiter, when an Englishman, who assisted me, took a scrubbing brush and soap, and in three minutes those operated upon could not have been told from white pigs." This may gratify those who object to black pigs, since they can so easily be washed white.

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### Merited Compliment.

The following merited compliment to a distinguished individual of Mississippi, which we find in a communication to us from J. S. C., Esq. of Jackson, (Miss.) we know to be eminently just. Mr. Elliott, who now holds a responsible official station, finds time to devote to the promotion of agriculture, being well aware that in increased products alone can the country be extricated from the financial embarrassments it now experiences. We may be permitted to mention here, as proof of what may be done by an individual, that we have received through the agency of Mr. Elliott, within the past year, more than 200 subscribers to the Cultivator:

"A reformation in all departments of agriculture is, I am happy to say, rapidly going on in Mississippi; and to the dissemination of the Cultivator by your staunch friend and the friend of agriculture, J. Elliott, Esq., very much is owing. Mr. Elliott is very justly esteemed the leader in improvements now making throughout the state, in the breeds of all our most valuable domestic animals, sparing no pains or expense to procure the very best of their kinds, although no individual can be more unassuming than he is in this, as in all other matters. His stock of Berkshires is becoming extensive, and has been derived from the most unquestionable sources. The crops of corn are likely to be large in this portion of the state; and those of cotton are perhaps quite as good as usual, though the plant is not generally so large as it should be at this season, (June, 1841.)"

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### Pine Sawdust—Inquiry.

Mr. White, the owner of an extensive steam saw mill near Jackson, (Miss.) inquires "whether pine sawdust has ever been applied as a manure; with what benefit; and to what description of soils it would be most serviceable?" He says:

"We have large quantities both of sawdust and ashes; would a mixture be beneficial? There are some low grounds on our place of heavy, tenacious clay, as yet unopened. Could it by ditching and applying the sawdust alone, or combined with ashes, be rendered serviceable in a year. The ashes we have will prove an invaluable manure to the most of our land as we get it opened, which is generally a light sandy loam. Hence a desire for preserving them for that purpose. The sawdust will shortly become a nuisance, unless it can be made useful as a manure. Under any circumstances, it is my intention to make some partial trials with it, but if it has been successfully employed, I would like to know it, in order to avail myself of other people's experience. The point I wish to get at more than any other, is, would the application of this description of dust, before rotting, be injurious to the land?"

Sawdust applied to soils would at first act mechanically, by rendering them less tenacious and more friable; and when rotted, would be the same as any decayed vegetable manure. There can be little doubt that on heavy clay lands, especially when drained, a dressing of sawdust would be useful, both in lightening the soil, and eventually as manure. At the north, sawdust of all kinds is highly prized, but its great use is to put in cattle yards or pig pens, to absorb the liquid parts of the manures, and have the acid, all woods contain more or less, corrected by the alkaline salts existing in such places. Mixed with animal manures in this way, it forms one of the best applications that can be made to land. A mixture with ashes, as alluded to by Mr. W., would correct the acidity, but it is probable the beneficial effects of the ashes would be more apparent on the light than on the heavy soils. *Pine* sawdust, as such, we have never known used extensively, but should have no fears of applying it to any land where it could be of use in rendering it more friable at first, or valuable as decayed vegetable matter afterwards. We should advise Mr. White to use as much of his sawdust as possible in his cattle and hog yards, to be trampled upon and saturated with animal matter, and the rest, mixed with ashes, put on such of his heavy lands as he can drain and open. The experiments, however, upon which Mr. W. is entering, will decide these questions more effectually than any theory.

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### Bots in Horses.

Messrs. Editors—Will you be good enough to tell me whether in your opinion, a horse ever died from the bots eating *through* his maw? This is a question of deep interest to the community, and I hope you will not fail to give not only an answer, but your reasons as much at large for your opinion as may be convenient. S. J. Wheeler.

*Murfreesborough, N. C.*

Although we do not imagine that death often occurs from the bot eating through the maw of the living horse, still cases have occurred which could hardly be explained on any other supposition, and for that reason we think horses are sometimes in that way killed by bots. Bots may destroy horses, we imagine, in three ways; by eating through the stomach, by accumulating in such numbers as to choke up the pyloric orifice of the stomach, and by their so irritating that organ as to produce inflammation and consequent mortification. We think the bot sometimes perforates the stomach, from the fact that his mouth and its appendages are adapted

to such an operation. All insects like the bot, that derive their subsistence from other animals, are provided with ample instruments for such a purpose. Thus the sheep maggot, the product of the *Musca carnaria*, is furnished with tentaculæ or hooks near his mouth with which he tears the living flesh, and the poor animal is literally (where this fly abounds, and the sheep is once attacked,) eaten alive. The bot is also provided with tentaculæ or hooks by which it fastens itself to the stomach, and with which it can at its pleasure tear and perforate the living wall that encloses it, and on the blood and secretions of which it generally feeds. We incline to the opinion that death sometimes ensues from the perforation of the stomach from the fact that the stomach of the horse dying from their attacks, is frequently found perforated or made a complete sieve by them. It has been maintained with much force and ingenuity that this perforation only takes place after the animal's death, and in consequence of their desire to make their escape from the stomach, as flies, ticks, &c. leave the animals on which they prey, as soon as death ensues. The instances, however, are frequent, in which horses have been opened sometime after death, and though bots were numerous, there was no perforation, the death being clearly attributable to other causes; while in others, opened as soon as breathing was done, and almost before the heart had ceased to move, the stomach was completely riddled. Why the bot will at times remain in the stomach without producing any apparent disturbance, and at others produce the greatest pain and most fatal effect, we do not know; that such is the fact, few we believe will doubt. At the same time it must be admitted that many of the diseases and losses attributed to bots, must be assigned to other causes, such as cholic, improper treatment, &c.

### Improved Stock in Georgia.

THE following is an extract from a letter received from B. BURCH, Esq. of Spring Grove, near Elberton, (Ga.) and is another cheering proof of the spirit of improvement in the breeding of domestic animals, as well as other departments of agriculture, that pervades the whole country, as well as the immense benefits which a few public spirited men can confer on a country by selecting, importing and distributing such improved animals. Mr. Burch has sent us a sample of silk "manufactured in his family without any other machinery than the common cotton wheel, and the worm fed on the common red mulberry leaves." The ladies to whom we have shown Mr. Burch's silk, pronounce it a beautiful specimen, and of superior strengh and quality. It is another evidence of the ease with which silk may be cultivated and manufactured, as Mr. B. had never seen a silk-worm before those that spun the present specimen:

"I have tried the Berkshires, and am much pleased with them. I should like to have those who still think they are humbugs to call on me, one and a half miles S. E. from Elberton, and see my boar Lord Bacon, that I got from Mr. Bement of the Three Hills; and Black Hawk and Dutch Girl, I got from Mr. Lossing of your city. Dutch Girl has six fine pigs of the "raal grit." I should also be pleased to show those of my friends who will call on me, a Cotswold Ram that was imported by Messrs. Sotham and Corning last fall, that clipped 12 lbs. of wool last spring."

### California Wheat.

THIS is the name given to a variety of wheat described below, and of which a notice was given in the Cultivator of last year, page 188.

"This wheat was got in the Osage nation, crop of 1839, from a man by the name of Boon, who obtained it from the St. Fe traders. Col. Spierin, of Abbeville, S. C. was then Indian agent, noticed the wheat, and brought it home with him to Abbeville, planted it in a garden and found it to grow well. The first heads counted about 100 grains each. The first crop in Abbeville gave about 150, and the crop of 1841 (the second crop raised,) have counted 204. It may be considered a reasonable estimate that in a good soil, each kernel sown will produce 1,000 grains. The wheat has been free from rust in both seasons of its cultivation, though rust is very prevalent in our southern wheats. JOHN WILLIAMS, Abbeville C. H., S. C."

We have examined an ear of this wheat, and find it to be a kind called by botanists *Triticum compositum*, perhaps a variety different from the one usually known under the name of Egyptian or many spiked wheat.—Of this wheat Low says:

"It is distinguished from all others by its branched or compound spike, which no other species tends, under any circumstances, to produce. Its seeds are numerous and its produce abundant. It requires a good climate and a fertile soil, for, in unfavorable situations, the branches of the spike are not evolved, and then it assumes the appearance of ordinary wheat."

The specimen of the wheat before us shows a good berry, of a light yellow color, and appears capable of making a fine flour. Should it realize the expectations of the gentlemen who have introduced it, the California wheat will be a great acquisition to the country. Its quality, however, and its adaptation to the country, remains to be more fully ascertained. To prevent all possibility of fraud, the proprietors have properly determined to sell it only in the ear. These may be obtained, one dollar each, at the stores of George C. Thorburn, and I. I. Roome, New-York, and W. Thorburn, Albany. It is a fall wheat, and should be sown at the usual times of sowing the ordinary fall wheat.

KEEPING ICE.—We find in the Kentucky Farmer the following directions for keeping ice:—"We take at sunrise from the ice-house as much as will be probably wanted through the day, and cover it up in some saw-dust placed in a barrel which sits in the dairy-house. At night, the size of any given piece is scarce perceptibly diminished. It is a perfect charm."

## NEW PUBLICATIONS.

### Downing's Landscape Gardening, &c.

HERE is a splendid volume, the title of which we shall give in full, as it will at a glance show the subjects embraced in it:

"A Treatise on the the Theory and Practice of Landscape Gardening, adapted to North America, with a view to the improvement of country residences. Comprising Historical notices and general principles of the art, directions for laying out grounds and arranging plantations, the description and cultivation of hardy trees, decorative accompaniments to the house and grounds, the formation of pieces of artificial water, flower gardens, &c. with remarks on Rural Architecture, illustrated by Engravings. By A. J. DOWNING.—New York and London: Wiley and Putnam."

The time was, when the publication of such a work in this country would have been deemed ill-timed and misplaced; but now, thanks to a more cultivated taste, to a greater acquaintance with the beautiful in nature, and to a rational and laudable desire in our men of wealth and influence to surround themselves with higher sources of enjoyment, the appearance of Mr. Downing's book must be deemed most opportune, and a substantial benefit to the public. The subjects treated in the volume are comparatively new to the great mass of our citizens, and much money has been expended to little purpose, so far as regards beauty or comfort in the construction and establishment of country residences, which might have been much better appropriated, had such a work as Mr. D.'s been accessible. The style of building in this country has been miserably defective; all sorts of styles and orders have been blended, and the instances have been very few in which better taste has triumphed over bad example, and the desire of display. From the publication of this work, we think we may date a new era in our rural architecture. The excellent observations, the beautiful and varied illustrations, and the number and style of the engravings, cannot fail to render it popular and useful. Let no person who contemplates the erection of a residence, attempt it without first consulting Mr. Downing's volume. To the gardener or the architect, who desires to be master of his profession and unite to the first principles of his art, a thorough understanding of some of its most important details, this volume is indispensable. It is a work to be read and studied by those who would improve their taste in such matters; and the beautiful manner in which it is got up, with the variety of its engravings, will contribute to render it not less a favorite in the drawing room than in the library. We are scarcely aware how much the mind is influenced and molded by the beautiful in nature around us; the elevating, tranquilizing, and we may add civilizing effects of the natural objects with which we are most familiar. It is the aim of Mr. Downing's book to guide and instruct the mind, to direct and cultivate the taste, and by bringing to our notice the effect of the beautiful, cause it to be sought and appreciated. It is a volume to which we wish every success. Price $3.50.

### Lindley's Theory of Horticulture.

THIS volume, which we have just received from the publishers, WILEY & PUTMAN of New York, must be considered one of the standard works of the age. It is an "attempt to explain the principal operations of Gardening on physiological principles," and perhaps there is no man living so well qualified for the undertaking as JOHN LINDLEY. The notes added to this edition by Messrs. DOWNING and GRAY, have greatly added to its value, and better adapted it to the American public.

Prof. Lindley's volume is an effort to explain and illustrate the common operations of gardening and agriculture on the principles which govern vegetation, and it is scarcely necessary to say to any acquainted with his skill and knowledge in vegetable physiology, that he has been eminently successful. The great clearness and force of his reasoning and the multitude of facts he has brought forward to support his positions, many of them most curious and interesting, cannot fail to interest and instruct the reader. The necessity of a more full acquaintance with the subjects discussed in this volume, is thus justly stated in the preface to this American edition:

"A knowledge of these leading principles at once invests with new and peculiar interest, even the most mechanical, and apparently unmeaning and irksome details of the art. With what increased satisfaction are the common processes of manuring or transplanting carried on, to say nothing of the more delicate operations of budding, grafting, propagating by layers, &c., when we are acquainted with the structure of the plants we are endeavoring to control, and comprehend the why and the wherefore of every step we pursue. With this knowledge of vital actions, new modes of culture and various improvements in the operations of the art, are continually suggested to the reflective mind; which derives additional pleasure from the prosecution of scientific experiments, of which the ignorant laborer who turns over the soil, and sows his seeds in precisely the same manner under all circumstences, never dreams."

Every part of this work will be found valuable to the gardener or orchardist, and not less so to the farmer who wishes to understand the rationale of vegetable nutrition and the conditions emost favorable to the growth of plants. We consider it a most favorable indication of the spread of correct sentiment, and a proof of the prevalent desire for useful practical information, when such works as Liebig's Organic Chemistry, Downing's Landscape Gardening, and Lindley's Theory of Horticulture are issued from the American press, and in a style of execution rarely exceeded by the London publishers. The enterprising publishers of this work, and the one previously noticed, (Wiley and Putnam, New York,) are deserving the thanks of the community for presenting to them these valuable works, and we trust their success will be such as to encourage them in farther efforts to promote the great interests, Horticulture, Agriculture, and correct taste in our country.

### Kollar on the Insects injurious to Gardeners, Farmers, &c.

THIS is a valuable practical volume written by the celebrated German Entomologist whose name it bears, translated by J. &. M. Loudon, and the notes by J. O. Westwood, Esq. We give the arrangement and subjects of the several parts, as best exhibiting the design of the work:

Introduction; sketch of insects and their classification, habits, uses, &c.—Part I: Insects which do not live on the body, but are troublesome from their attacks on man. Part II: Insects which live on domestic animals. III: Insects which sometimes attack animals. IV: Insects which injure Bees. The 1st part of section 2d, treats of Insects which injure grain—II: Insects injurious to meadows. III: Insects injurious to culinary vegetables. Section III. Part I: Insects which injure the vine. II: Insects which injure green and hot-house plants. III: Insects which are injurious to fruit trees. IV: Insects injurious to woods and forests.

From this programme, it will be seen that the field of labor is an ample one, and well has it been occupied by Mr. Köllar. He has noticed nearly all the known insects injurious to man, grain, fruits, trees, &c. and the well executed cuts that accompany the work make the distinctions of form, so necessary to a right understanding of the several species, easily seen. This is the case with those that prey on grain, particularly the two called the Hessian fly, and the Wheat fly, which many have confounded together, but which the engraved representations in this volume, as well as the known habits of the two depredators, would prove to be wholly distinct. We may hereafter make room for that part of his article on insects injurious to grain, which relates to these two insects, as the subject is one of much interest to the farmer; the Hessian and the Wheat flies having for many years occasioned most serious losses to the American cultivator. We believe the book has not been republished in this country, but it will be found a most useful publication for those who wish for a full account of insects injurious to the farmer, orchardist and forester. The London edition (price $1.75,) may be had of Wiley & Putnam, New-York.

### The American Housewife.

This neat volume, for which we are indebted to the publishers, DAYTON & SAXTON, New York, is a copious collection of "valuable and original receipts in all the various branches of Cookery," with a large mass of miscellaneous receipts, and instructions relative to housewifery. The whole by an experienced Lady. The subject of carving is also fully elucidated, and illustrated by engravings; and on the whole, there are few volumes, which, to the young housewife, who desires to unite economy with taste and elegance in her cookery and table management, will be more acceptable or useful than this. Of the value of many of the receipts in a former edition of this book, we can speak experimentally, and can cordially recommend it to our lady readers as particularly worthy of their notice. The appearance of the book is worthy of the good things to which it may be considered a prelude, whenever its directions are adopted. (Price 50 cts.)

### London Farmer's Magazine.

THE July number of this excellent Journal is before us, containing a great variety of papers, interesting to those who take an interest in the great cause to which it is devoted. Among these papers, is the commencement of a notice of Liebig's Organic Chemistry, by J. Towers, Esq: the Agricultural Statistics of the United States; an able article on the cultivation, feeding, &c. of roots, from the Baltimore American Farmer; the description, engraving, &c., of Hussey's grain cutting machine, copied from the Cultivator, with other well written papers on various subjects connected with agriculture. In the spirit and beauty of the engraved portraits of animals, the Magazine is without a rival. Those for this month are, the Aberdeenshire Polled Prize Bull, owned by Isaac Machray, and the Deer Stalker.

### Sander's School Books.

Messrs. DAYTON & SAXTON, of New York, have furnished us with a set of Sander's series of school books, consisting of "The Primary School Primer," "The Spelling Book," and "The School Reader," first and second books. We must confess that we have been, and still are, decidedly opposed to the unnecessary multiplication of school books, as constituting a source of constant change and expense, without any corresponding benefit. The hasty examination, however, which we have been able to give these volumes, has done away much of this feeling, so far as they are concerned, and the long array of most respectable names attached to recommendatory notices in them, would seem to indicate that for the purposes intended they possess no ordinary merit. Such matters, we must leave to those who are more competent, and whose business it is to decide how, and what, the rising generation are to be taught.

## ORIGINAL COMMUNICATIONS.

"In Agriculture, EXPERIENCE is of great value—THEORIES of little, excepting as they are directly deducible *from* actual experiments and well attested facts."

### VERMONT FARMS AND FARMING.

#### Management of Meadow and Pasture Lands.

MESSRS. GAYLORD & TUCKER—That portion of Western Vermont which lies between the Green Mountains on the east, and Lake Champlain on the west, including the towns of Orwell, Sudbury and Brandon on the south, and Shelburn and Hinesburgh on the north, is the subject under consideration. The main body of this land lies in Addison county, near the center of which is the place of my residence. This broad tract of land is about 15 miles wide and 40 miles long, and very noted for its luxurious grass and grazing country.

The nature of the soil and its situation is rightly adapted for both meadow and pasture land; we much abound in natural and artificial meadows, which are very free from stone. This section is principally clay soil, with a portion of rich loam on the swells, and on the low lands muck and black sand. The soil near the mountains is not so productive as that which lies nearer the lake. There are many indications that the surface of this lake was formerly thirty or forty feet higher than it now is; the rocks in several places appear to be marked and stained with the former surface of the lake. Fossil shells and the limbs and bodies of trees are frequently found at the depth of fifteen or twenty feet in the earth; many of the inhabitants are of the belief that the waters were formerly much higher, and spread to a much greater extent than they now do. There are many artificial meadows which we term intervales. Those meadow lands adjacent to rising ground, from their being generally enriched with the nec mould washed down, are of a rich soil and seldom require much other improvment than the removing of the superabundant moisture by proper draining.

The artificial meadows, from their being situated in wide spread tracts each side of our rivers and smaller streams, where the depth of the soil has been for past ages increasing by the deposition of various sorts of vegetable and other mold, brought down from the mountains and higher grounds, are in a greater state of fertility, and evidently better fitted for the permanent productions of grain and grass than those from which they have derived their richness.

This of all others is the most productive, yielding an abundance of sustenance through the summer, and producing an everlasting source of means for the support of man and beast, and the improvement of the highe lands. These lands cannot be outrivaled for constant productions of grass and grain by the prairies of the far West.

The clearing and improvement of our hill lands was the first work of the new settlers, and the vale or flat lands were mostly left uncultivated, considered to be of little value, by their appearing in many cases as vast swamps, which were often occasioned by the old timber that lay on the ground to obstruct the passing off of the surface water. In most cases, these vale lands or natural meadows should have been the first to attend to for health and profit.

The greater portion is natural meadow land, though we have large tracts in this country that are flooded by Otter, Dead and Lewis Creeks and Lemmon-fair, a low and sluggish stream, New-Haven river and several other smaller streams which overflow their banks, in many instances more than half a mile in width, and become highly profitable to their owners, affording not only an abundance of hay, but yielding large crops of oats.

Our higher meadow lands, which partake more of the loam, demand more attention in their management as respects their being kept always in good heart; these higher sorts of grass lands admit of considerable more latitude in performing different operations, as they are capable of admitting the stock as well as the dung cart more early in the spring months, and of suffering them to be worked at later periods in the fall without inconvenience. The more elevated lands often afford the sweetest feed, and are converted to the use of being fed down by sheep and other animals.

Formerly large quantities of wheat were raised on our clay lands; this grain was very productive, and large quantities were taken to the Troy market. At length we were defeated by the grain worm, which on the whole appears 'all for the best,' for many meadows were materially damaged by the plan, and they never have obtained the durable sward that those meadows have which still remain in the state of nature. In such cases, where the grass runs out, and gets hide bound, to renovate them we have to resort to the plow and raise a crop of oats, or other spring crop, once in six or eight years, then seed down to grass, the roots of which are very liable to be thrown up by frost, where the sward is not well set. Our meadows are sometimes injured by converting the crop into hay for several successive years without admitting it to ripen. If attention be not paid to permit some seed to fall, its quantity will sensibly diminish; those meadows should be the first to cut this year, that were the last that received the sythe last year. The habit of stocking moist lands, spring and autumn, with heavy cattle is common, but a very bad practice; for it must be evident to the most superficial observer, that the breaking of the surface texture, or sward of grass lands, must in all cases be prejudicial, not only by the destruction of plants which is thereby immediately produced, but also by the retention and stagnation of water upon them in the holes and depressions, from small portions of the turf being forced in; the evident necessity of clearing and removing all sorts of live stock, and more especially those of the heavy kinds on both of those descriptions of moist meadow land, and also on pasture land. I came in possession of a meadow where a portion of about six acres was poached up by cattle every fall; it was thereby formed into small bogs of grass, and the space between these bogs produced little or no herbage. I supposed at first it was the nature of the land to be thus boggy, and thought of resorting to the bog hoe for a remedy; but for the last ten years cattle have been most wholly removed, and only sheep permitted to graze thereon,—it has now become quite even, and those portions, of more than one half, where every vestige of herbage was destroyed, are now quite well awarded with valuable grasses of timothy and red top. In the spring season, heavy cattle are too frequently turned into moist pasture lands where they should not be permitted until they begin to possess a proper degree of firmness. In some cases ten head of cattle will drive more turf beyond the action of light and heat in one day, than would require to support one of them through the season.

To stock a farm with horses is the least profitable of any beast; they will in a few years destroy a good pasture by cutting up the sward; they return no manure to the soil that is of any benefit to the herbage.

Another error which exists among our farmers is, in permitting our cattle and sheep to eat down our meadows in the spring. It is very plain that when they are thus treated, we are not sure of an abundant product, and not being so early, of course, they do not have that advantage of making hay and securing it in the proper season. One considerable item in the failure of the hay crop in this region last year was occasioned by pasturing our meadows in the spring. The spring season being wet, it bid fair for a full crop, but it came on very warm and dry the last of June and scorched the grass roots. Those meadows that were not thus early fed, produced from one fourth to two thirds more hay than those adjoining that were late fed. The tread of the animal prevents the sward from giving a fleecy bottom and stints the growth of the young shoots. Some may imagine that barely the weight of sheep in this way cannot have any bad effect, but I am confident that it does in some small degree, more especially on clay meadows, and those soils composed of clay and sand, where the ground is well saturated with water, the weight of the animal assists in consolidating the soil, and on the commencement of a drouth will bake more readily. Those who have cut the sward by a plow or spade across a sheep path in this period could not but plainly see the difference, and grass will not grow in a sheep path.

The difference of situation in pasture lands has likewise much influence in directing the uses to which they may be applied with the greatest benefit; the higher and more elevated grounds being in general mostly used for sheep, while those of the lower are better situated and used for the purpose of neat cattle. Those enclosures of a moderate size are found more suitable for feeding than when the contrary is the case. It is a great fault with most of our graziers to summer different kinds of stock on too large enclosures This is a point of management in grass husbandry that has been too much neglected by our farmers in general; not only great loss and inconvenience from its running up in tufts to seed, and by that means rendering the pasture patches and unevenly fed down, by which the extent of real pasturage is lessened, but it cannot keep the same quantity of stock in as good plight as where less numbers are permitted to run together.

The true principal of grazing for profit is, so to manage as to *eat all* and not reduce the condition of the stock, which can be done no other way than only by smaller enclosures than our farmers have been accustomed to arrange them, by eating all the briers, thistles, elders and other sorts that spring or shoot out upon the surface; they are in a measure extirpated, when, if left remaining upon and shading the ground, they render the herbage sour, coarse, and improper for the food of cattle and sheep. And here let me recommend that in case the thistle, elder, &c. have obtained too strong hold upon the ground to be mutilated by stock to advantage, it is a sure and most expedient and profitable way of extirpating them to cut them down when full in the blossom; as also willows that grow on the margin of brooks and other streams, may be exterminated by cutting them in August, two or three consecutive years.

Those pastures that are productive in grass of the more sharp, coarse bladed kinds, and other sorts of aquatic plants presenting themselves, it is very important that they be close fed in the spring season, as by this means the water enters their stems and the plants decay; the young shoots being more readily eaten by the stock, and good grass plants thereby allowed to flourish. That feeding down pasture lands of these as well as other kinds in a judicious manner, has the effect of rendering the herbage more fine and better for the support of stock in general, there cannot in my opinion be the smallest doubt. Our soil being so naturally productive of the different varieties of grass that very little attention is paid in regard to strict economy in the saving of manure to be applied to either our pasture or meadow lands other than what may be scattered about by sheep grazing.

To keep the greatest quantity of stock on a given quantity of land, I believe it may be done by turning them out early in the season before there is a full bite, and having a change of pasture to give them weekly fresh feed. By turning stock upon pastures where there is a full bite, the better sorts of grasses are only consumed, the more coarse herbage being rejected and let run to seed, by which the lands are greatly injured at the time, as well as in future; while on the contrary if the stock be allowed to enter during the time such coarse plants are in their more tender, early growth, and before the pasture is covered with better herbage, the whole of the other plants will be fed down in a regular manner with the grass; and the want of a full bite, on first turning out of the store stock, is of advantage to the animals, as they become more gradually accustomed to the change from dry food to succulent herbage.

I would not contend that close feeding for a large stock to range together through the season could be profitable, but it may be done with smaller pastures, rightly to put the most of the greatest profit, although some of our farmers are of a different opinion, advising that all kinds of stock should have an abundance of feed at all times. That we have more farmers that over stock than fall short of it, may be too true, but this over stocking our pastures happens oftener on large enclosures than on small ones. The disadvantages of over stocking are scarcely capable of being repaired by cattle and sheep suffering a check in their growth, which, if ever, may take them long to regain their former thriving disposition; by over stocking in some cases, almost the whole produce of pasture lands are thrown away.

I have my doubts in respect to the manner of stocking with only *one* kind of stock, or to have a *mixed* stock to produce the best effects. Some think the more various the kinds the better it is for the stock and the lands. I have found no inconvenience in keeping only sheep on the same pastures for a succession of years in good heart. I have ever noticed that the different kinds of animals are all fondest of pasturing on that which is most sweet and tender. Sheep are well known to ramble over the whole of the pasture in search, rightly to pick out the most sweet and delicate morsels. The feeding of neat cattle is perhaps less particular and delicate in this respect, but when not forced by hunger they mostly appear to fix upon such parts of the land as possess the most sweet and palatable herbage, rejecting the coarse spots where it is less tender and agreeable. I think that no mixture of animals will answer the even and regular feeding down of pasture, for where a sufficient supply of herbage is before them, they will be all attracted by the sweetest parts, and those of the more sour kinds in consequence rejected.

The giving the stock the whole range of extensive pastures at once will not summer as much in the same condition that it would if the pasture were so divided as to give them the grass at different times in a fresh, unbroken, untrampled state. There can be no doubt but that much greater waste of grass is made in turning upon the whole at once, especially if the full proportion of animals for the land be put in, as it is obvious that when grass has been trampled upon once, all sorts of stock reject or eat it with great reluctance.

It is considered indispensably necessary that pasture be well supplied with water, as without having this in some degree at command, it is impossible that stock can thrive well. In situations like many farmers on our lake towns where the natural situation of clay is of considerable thickness, there is little difficulty in the construction of such watering ponds so as to be perfectly retentive or water tight, but in loose porous soils the business is not executed without much art.

Timothy, and white and red clover are best adapted to our clay soils and moist loams, but on poor and wet loams and clays it will not abide, but gives way to the water grasses and various plants, or other indigenous grasses. There is no better test of good land than its running spontaneously to white clover. I have known many fallows of new land where this grass took the ascendancy without any seed whatever being sown. Although it has not the sweetness of red clover for sheep, yet it is their main dependence. Whatever seeds be sown, white clover forms the principal part of the dependence for success; this plant requires close feeding to discover its merits, for if left to get a rank start on the ground it becomes sour, and sheep will grow poor and do badly on it, sooner starve than thrive.

I have fattened sheep on white clover pastures where the grass was so short it would seem as though they could not subsist; this fact proves that it does not depend so much on the *quantity* of the food as it does upon the *quality*. The old saying the "nearer the bone the sweeter the flesh," will here apply, that nearer the ground the sweeter the grass. There is but little doubt of the beneficial consequences of hard or close stocking on the older sorts of grazing land, but on the new lays it should be seldom attempted, as injury may be done to such land; close feeding will make most kinds of any grasses fine, sweet and productive, but this effect depends altogether on its being constantly fed close, that is, all seed stems being prevented from rising. The pasturing of sheep has evidently, in the course of fifteen years past, improved the quality of the herbage so as to raise grass of a good species, and in very considerable abundance, where nothing formerly prevailed but bad kinds of grass, and these in no great plenty.

The practice gives undoubted proof of its great advantage in renovating foul lands. On our dry soils it requires much longer time to grow the *second* inch than the *first*, and consequently we find it much more profitable on such soils to stock with sheep than cattle. Sheep feeding not only ameliorates by enriching the soil and fining the herbage, but also by destroying the weeds; we rank Johnswort and white daisys among the worst of weeds; these are over-run by cattle grazing, and thereby frequently get foul in the extreme, but cured by pasturing repeatedly with sheep. It may be proper to remark, that when a field has been pastured long with sheep it becomes rancid and disagreeable to them by large quantities of manure that they return to the soil, and no stock likes to feed near its own dung,—in such cases a rest for one or two years by either stocking with cattle or mowing will be beneficial and necessary.

Ant hills are very common in our pastures and meadows; as respects their extermination and the prevention of the rising of these mounds on our valuable lands, they may be wholly guarded against. I accidently discovered that by digging them up by the core, which lies about level with the surface, just as the ground freezes, it would destroy them; since then we have raised hundreds of their habitations in a winter's thaw with complete success.

Probably as much good fence cannot be found in any of our sister states, in the same extent of country, as now incloses the fields within the above tract, which is constructed chiefly from cedar, pine and ash timber. The central part of this section early frosts does not visit one year with another as soon, by some days, as it does other portions of our state.

Yours, SOLOMON W. JEWETT

*Weybridge, Vt.*, 1841.

### Building Stone Wall.

MESSRS. EDITORS—Living, as I do, in a country abounding with stone, and having had some experience both in drawing and laying, and having been an attentive observer of the improvements that have been made around me in the business, I will venture to make a few suggestions; especially as so little is written on the subject. It demands more attention than I have seen given to it. A fence so costly as stone wall should be well made. A great deal of poor wall has been laid in the country; full enough I think for our credit, as it respects our economy or good sense. Considerable half wall has been laid, 3 ft. or so at the bottom, and 3 or 3½ high, which would soon bulge and tumble down; and the stakes and rails which would be needed to complete the sham fence would tumble about as soon as the stone, on account of the stakes rotting off; and they of course would have to stick out in the way when stuck 2, or 3 ft. each side of the wall.

In some parts of the country you may see considerable fence made of posts, boards, and stone, or perhaps rails instead of boards; but the wind operating on the upper part, would soon jam the stone a little too much to make them lay well, and the posts would rot off before a great while; so that the two kinds of fence above mentioned have found but few advocates among us. Give us none of your half fence; we want a whole fence; so good that it will not be learning the cattle to jump, and will last a spell.

Finish your wall when you begin it, and make it 5 ft. high; and in ground that is wet, and liable to heave, do not begrudge a ditch, and make a free use of sticks.

Whole wall seems to take but little more stone than half, where it is as narrow at the bottom as it ought to be; our best wall layers say from 2 ft. to 2½. Wall almost always bulges out at the side, when it falls down; and when it is wide at the bottom, it bulges a great deal more than when it is not, every one knows, that knows much about stone fence: therefore we think if it is as narrow at the bottom as we can well lay it, it will stand the better. Convenience of laying requires more than 2 ft., but otherwise I do not know what objection can be raised against having it that width: we have tried it so narrow considerable. Then make it 5 ft. high, and without your sheep are smarter than mine they cannot climb over it.

Sticks are of great use in a wall. Get wood that will split well, be durable and soft; or almost any kind will answer; split the sticks 1-2 an inch or 1 inch thick, and 2 or 3 wide, and have them nearly as long as the width of the wall where they are used. Mr. RICE, of Hannibal, a man to whom no little credit is due for improvements in wall laying, had some wall that was laid with sticks about 8 years ago, taken down, and after getting down a foot, or a foot and a half, from the top, the sticks resembled lumber seasoned under shelter, all of the way except the ends of the sticks. I have taken down wall after a rain and most of the inside was not wet at all by it. Mr. Rice was of opinion that basswood would last 50 years. The sticks should not stick out quite so far as the stone, or they will be likely to catch water, and carry it on to the middle. They are not needed at the top, where the stones reach across occasionally.

But with the truest proportions, and a liberal use of sticks, the stones will not keep their place if laid on ground that heaves much. Dig a ditch at least 8 in. deep, and fill with small stone. For such a wall as I have been describing, the ditch ought to be about 3 feet wide, and care taken to have it straight, so that the wall will not be on the edge, and especially off the edge, in any place. If the ground is hard to dig, and you can plow a straight furrow, back furrow; but do not plow too wide. If the ground digs easy, a line, a few stakes, a shovel and a peck, and a good digger, would operate to as good advantage as any thing, I guess. In filling in, do not put large stones in the side of it.

If the ground is dry, and not inclined to swell and shrink much, by freezing and thawing, and especially if you build your walls north and south, a ditch would be of little or no benefit; but it makes almost "all odds" on wet ground.

If you have round and flat, small and large stone, take some pains to have the kinds mixed together; especially have plenty of small ones to fill into the middle of the wall.

And no good wall layer needs to be told to have the coarse and fine, round and flat, long and short stone judiciously mixed, and have the wall as well bound as may be. It wants some of the best stone on top, those that are coarse and will reach across; on account of making the wall firm, and staying on good. CATHAS.

*Oswego, April* 16, 1841.

## Remedy for the Turnep Fly.

Messrs. Gaylord & Tucker—As every thing is of interest to the farmer which enables him to guard against the depredations of the insect world, as well as to overcome the notions of by-gone days which have long since been exploded by the light of science and experience, I have taken the liberty of communicating for the Cultivator some experiments relative to the preserving ruta baga and other turnep plants from their most destructive enemy, the black fly.

Many farmers have abandoned the ruta baga culture entirely, in consequence of the great uncertainty of the crop. I have for several years contended with the little black fly or flea, which attacks the plant as soon as it appears, and often in a single night destroys a whole field. Many a seed seller has been overwhelmed with anathemas for selling bad seed, when the little fly has made way with the plants before the farmer was up in the morning. I have never until this season been able to arrest the depredations of the fly, except partially.

In the June number of the Genesee Farmer, I noticed a remedy for the fly, recommended by Mr. Parsons, of Perry. The method which he has adopted with entire success, is "to soak the seed for 24 or 48 hours in *tanner's oil*, and then roll it in plaster to facilitate sowing." A very little oil will be sufficient. I tried the remedy on my seed this year, and with most entire success. The offensiveness of the oil is imparted to the plant, I presume, and if so, it is no wonder the fly is willing to seek some more delicious herb on which to perch and satisfy himself. I made trial of some seed as usual in the same field, but found that the fly took nearly all the plants.

With Mr. Parsons, I would say to the incredulous, put this receipt by, and make the experiment. It will not cost you much, and if it save you four or five hundred bushels of roots, for an expenditure of *six cents for oil*, you will be repaid for having *yielded once to experimenting*.

B. P. JOHNSON.

*Rome, N. Y., August 4, 1841.*

## On the Use of Lime.

Messrs. Gaylord & Tucker—There are few things connected with agriculture about which so great diversity of opinion exists among theorists and practical farmers, as the value and effects of lime when applied to the soil. By some it is regarded as a manure, which may be profitably used upon every soil; others think it a stimulant that can only be used with profit where the soil possesses dormant vegetable matter that requires the action of artificial heat to cause fermentation and prepare it to become food for plants. "The use of lime as a manure is supposed to have been introduced into Great Britain by the Romans, and has been extensively used there for the last two centuries; in fact it may almost be termed the basis of good English husbandry, as a large proportion of the soil in the British islands is of a cold, heavy and moorish nature, and could never have been brought to its present high state of cultivation without the application of an alterative, or some powerful stimulant that would warm up the soil, bring its dormant powers into action, and cause fermentation; thereby changing its very nature, so far at least as its productive qualities are concerned." Thus heavy clay soils, by a sufficient application of lime to cause thorough fermentation, lose their tenacity, and (while the vegetable matter is prepared to become food for plants) the soil itself appears by a chemical process to have undergone a change.

It has been asserted that the expense of an application of lime to heavy clays is amply repaid to the husbandman by the increased facility with which such soils can be worked—perfect tillage not being half as expensive as before the application. We think lime will be found invaluable upon all clay soils, especially in the improvement of those that have been worn down by improper tillage. Such soils receive but little benefit from yard manure, except given in large quantities; at least, they are slow in their action upon vegetation; from the reason of the coldness of the soil, its heavy texture, fermentation is slow and imperfect. By a sufficient application of lime with the manure, fermentation will be more rapid and complete, the close texture of the clay will in a great measure be destroyed, and that an improvement has taken place after tillage and crops will fully attest. I have frequently noticed an experiment made by a farmer in an adjoining town, the results of which are so satisfactory that I am induced to give them in detail. In the spring of 1836, 6 bushels of lime was applied to 4 rods of clay in its hot state; the land was thoroughly worked with a plow and sown to oats; fermentation soon commenced, and was so great as to injure the oats. The process resembled that of yeast in bread, and the effect was the same; the soil was lighter and resembled a soft loam. In July, the oats were turned under and turneps sown; the crop was large and of good quality. The spring following, it received a dressing of manure, with the rest of the field, and was planted to corn. The decided superiority of this piece could be noticed through the whole summer; it grew rapid, rank, and produced double the corn harvested on the adjoining 4 rods. Spring of '38, sown to oats and clover, both of which were vastly better than on the adjoining land treated in the same manner, with the exception of the lime.

The quantity of lime used in this experiment was large, at the rate of 240 bushels per acre. But the experiment has shown that all of the effects that have been attributed to lime may be realized where a sufficient quantity is used. The lime in this case evidently acted as a manure, which is proven by the superiority of all four of the crops, as a stimulus both to the soil and the crops, and as an alterative (how permanent I cannot say) from the appearance of the soil, resembling more a loam than clay, and the ease with which it can be perfectly tilled, compared to the same soil before the application. The results of this experiment are desirable, and the question naturally arises, if heavy or clay soils are to be limed, should not the quantity given be sufficient to produce all the above results? Half the quantity would probably have assisted the partial decomposition of the inert vegetable matter, operated as a stimulant and as a manure, but would not have produced the same effect upon the soil, which were certainly improved, and in addition to being more easily worked, will probably continue to carry heavier crops. Perhaps as a general rule the quantity of lime to be used will depend and should be governed by the quality and nature of the soil, and the results wished to be produced; the lighter the soil the less the quantity required to produce all the good that can be expected on such soils, and *vice versa*. I have seen crops evidently improved by a very slight dressing of lime. There are few farmers that have not noticed its good effects when used as a pickle on wheat, and yet the quantity used was so small that it could only have benefited the crop as a stimulus. I noticed a few years since in one of my neighbor's fields a very great difference in the appearance of the wheat. In one part of the field it was bright and rank; in the other it looked rusty and bad. On inquiry I found he had been building a house, and had drawn the old mortar and rubbish on his fallow. This was five years ago, and the effects may still be seen.

Some writers assert that the *only* benefit vegetation receives from lime is in the heat it imparts to the soil. Lime can only be reduced to a calx by intense heat. And they contend that a great proportion of this heat is partially fixed in the operation. In support of this theory it is said lime promotes the growth of some plants, and is destructive to others, or that all native grasses of northern climates are killed by it, while the cultivated or natives of more southern latitudes are benefited. This theory, like the fixed heat in lime, will hardly stand the *process of slaking*. It is more probable that the native grasses are destroyed by cultivation, as an application of lime and good culture generally succeed each other. The heat lime produces when slaked, or rather the heat thrown off from the large quantity of water which by its union with the lime is formed into a solid, is without doubt beneficial: but to assert that this is the only benefit lime produces to vegetation is mere theory, which has been falsified by every experiment that has been made in its use.

Lime is found in the formation of a great many of the plants, grains, &c., and wheat cannot be successfully cultivated without the existence of it in the soil. Our geological survey has shown that there are large quantities of lime in a majority of the counties in this state, which, with the numerous beds of shell and earth marls, are destined to be valuable resources to the farmer.

JOHN C. MATHER.

*Schaghticoke, N. Y., 1841.*

## Blight or Mildew in Wheat.

Messrs. Gaylord & Tucker—The notice you were pleased to take of the papers by Col. Smith and myself on the subject of blight, in the Cultivator for July, was not observed by me until now; otherwise it should have had earlier attention. You remark that "it struck us as not a little singular that while the first half of his (Mr. Gowan's) paper is devoted to proving that sudden changes of temperature are the cause of this evil, the last part should be an argument to prove the frequency of the disease in British wheat, a country where the climate is more equable, the range of the thermometer less, and the changes less sudden and extreme than in almost any other."

With permission I beg leave to say a word on what appeared to you so singular, and am especially moved to the explanation because the Cultivator ranks so high with farmers, and circulates so extensively among them, that I am unwilling the position I took, however feebly maintained, should be affected in the view of so many readers by the inference that I was inconsistent.

My sole object in reviewing Col. Smith's theory was, to cause grain growers to pause before they changed their practice of sowing grass seed with their grain, merely to provide against blight, being fully convinced that however proper it might be for other reasons to work for grain alone, it *would be as liable to blight without the grass as with it*.

Col. Smith stated that blight was unknown in England, "because," as he said, "there it was not the custom to sow grass with winter grain," and especially did he point to the drill system as being worthy of imitation. It became me then, to show that the disease *was* known in Great Britain, notwithstanding there, as Col. Smith alleged, it was not the practice to sow grass with grain; and more particularly did I show that the *drilled wheat*, with the plants at certain distances from each other to let in the sun to the very roots, and without grass or weeds, was more susceptible to blight than that sown broadcast. This was conclusive against the theory that the grass was the cause of the blight.

I *did not* attempt to prove "the frequency of this disease in British wheat," but on the contrary took pains to prove that it was owing *to the equableness of temperature, not to the absence of grass*, that Great Britain was indebted for so much exemption from blight. In proof of the difference in the two climates, I gave thermometrical observations made at Plymouth, England, and at the United States Arsenal near Philadelphia, and relied upon them as determining why blight is not as usual in Great Britain as in the United States.

Although the climate of England is more equable than ours, still it is not so uniform as to forbid all apprehensions of blight from change of temperature in the air. Changes sometimes occur there while the wheat is maturing, that blight it, causing considerable diminution in weight, and consequently affecting it most seriously in quality. If the London correspondent of the New York Courier, under date of the 13th July, per the Great Western, may be relied on, this very season in England is likely to prove the correctness of my views as to the cause of blight. In speaking of the corn market, he says—"an extraordinary change in the temperature of the air took place on Sunday last. The thermometer standing at 82 deg. during several hours, and during the whole of the following night, a degree lower than has been known in England on a Christmas day." Now if the wheat in England was in a certain state of forwardness at the time this change took place, and should the cold have continued for a few days, there is little doubt on my mind but it will be injured by blight.

The experience this summer and harvest have afforded, confirms me in the opinion *that grass has no agency in producing the blight on our grain*, and that mildew or fungi, in the proper sense, has as little to do with it. Late sowing, rank, juicy plants, by reason of our rich soil, or culture that keeps the plants too fresh, thereby retarding their ripening, may endanger or predispose, but cannot blight. The *scald*, as I described, and the sudden transition from heat to cold, are the prevailing causes. Very respectfully, your ob't serv't.

*Mount Airy, Pa., August 2, 1841.* JAMES GOWEN.

## Blight or Rust in Wheat.

Messrs. Editors of the Cultivator—Observing the discussion upon this subject, I am induced to throw in an ounce of experience. Perhaps the most universal and most extensive blight ever known, is that which fell upon almost every acre of wheat in the northern parts of Indiana and Illinois in 1840. Upon five hundred thousand square miles of as rich soil as ever the sun shone upon, not one acre in ten was worth cutting. Early and late sown, and upon every grade of soil, on hill or dale, wood-land or prairie, all was affected. Though in sheltered situations in woodland, and upon the poorest soil, it was the least injured. And what goes far against the "grass theory of Col. Smith," is the fact that what is termed "sod wheat" was the most injured. "Sod wheat" is the term given to the first crop on the prairie. The land is usually broke in July or August, about four inches deep—it is turned over flat in furrows from 16 to 24 inches wide, and the sod is often in unbroken strips half a mile long; and there are so full of grass roots that the plough makes but little impression, and the consequence is, that the wheat is drawn into the cracks between the furrows, and as it grows it shows every appearance of having been drilled in long straight rows. Such land is usually very bare of all grass and weeds, and the wheat comes to early maturity.

No local cause could have produced the great blight of 1840. In the latter part of June, the wheat had attained a most luxuriant growth. Then came several nights in succession of most bitter cold, followed by a succession of "scalding hot, *muggy* weather." This must have been the cause that produced a distressing effect. Spring wheat at the time had not reached sufficient maturity, and consequently escaped the blight.

It is my opinion that no human foresight and care can be exercised sufficient to prevent a natural cause and effect of the wheat grower's hopes.

Of the crops of the present year, in this region, the farmer has no cause of complaint. Wherever good seed was sown, good harvests are gathered. And you may be sure there is a goodly quantity here to make up any deficiency in the crop elsewhere. For my own part, I have learned to place but little reliance on the assertions of "crop croakers," which always abound at this season of the year. Indian corn now promises the most abundant harvest ever gathered in this region. Be assured famine is yet "afar off." Let us be thankful for present bounties, and enjoy the pleasure of hope of future ones.

*Lake C. H., Ia., July 16, 1841.* SOLON ROBINSON.

## Preservation of Timber.

To the Editors of the Cultivator—My name having been unexpectedly associated with the publication in your columns of the discoveries of M. Boucherie, relative to the preservation of timber, by the infusion of various antiseptic fluids into the previous circulation of the tree, it seems proper that I should communicate a few explanatory facts.

There seems to be some doubt in the minds of many of the practicability of infusing liquid substances in the manner recommended. To such I respectfully suggest, if they happen to have a favorite ash or oak growing near their dwellings, to bore a few holes with an auger near the place where trees are usually cut with an axe—entirely into the heart of the tree—fill the hole with the preserving or coloring substances, plug up the holes carefully, and mark the progress of the fluid by means of the leaves. This is a very cheap and easy process, and is a practical remedy for those who apprehend any difficulty in placing large timbers in tanks and saturating them by external applications.

Under Kyan's patent, (obtained in England, throughout the most of Europe, and in this country,) corrosive sublimate has been used for preserving from the dry-rot, timber and textile fabrics. This salt combines with the fluids of the timber, and forms solid precipitates that are not capable of absorption from the atmosphere of either nitrogen, oxygen, or ammonia. Many cheap substitutes have been suggested, and as early as six years ago, Dr. Woollastan proposed sulphate of copper, or blue vitriol; and some trials were reported to the House of Commons. The whole evidence produced and submitted to that assembly is important; it seems to prove beyond dispute that Dr. W.'s discovery is more important than Kyan's, and was suggested by his acquaintance with the copper mines, where he had noticed that wood subjected to the operation of the cupreous waters had been preserved many years, while those in the iron and lead mines soon decayed. He has since made numerous trials with various salts, and has uniformly found that sulphate of copper is the best preservative. Since his experiments have been successful, Mr. Margery has taken out a patent for the exclusive right of using sulphate of copper for this purpose, and it has excited much interest in the English journals. A patent, I understand, has been refused in this country, either on account of the individual not being a citizen, or of his not being the inventor.

In the Boston Daily Advertiser, of a few weeks back, you may find a copy of Margery's specification. I have not the paper by me, but the following is part of the specification: "To 1 lb. of sulphate of copper add four gallons of water; let it be for about two days, frequently stirring it; then let it run upon the wood or other substance intended to be preserved, which should be allowed to remain in a tank, and be kept under the fluid two days more; it should be submitted in a perfectly dry state."

Respectfully, &c. CALEB CARMALT.

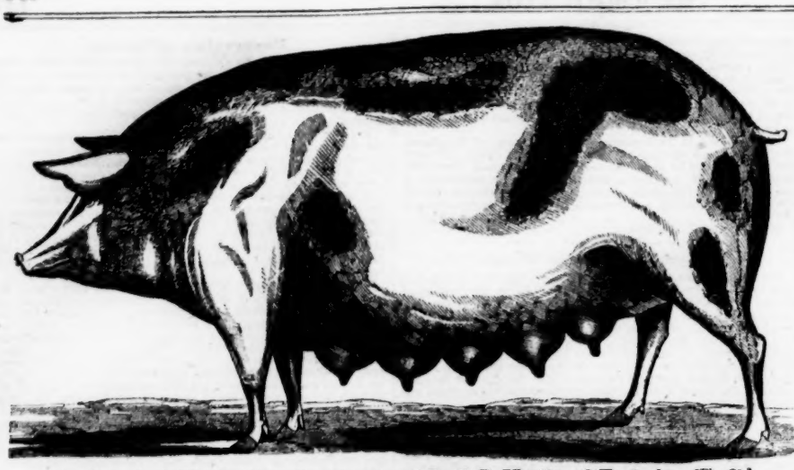
*Friendsville, Susquehanna co., Pa., 7th mo. 26, 1841.*

## The Sulphates and Salts of Iron.

We received a long and pointed communication from our correspondent 'Holkham' in reply to the paper of 'N. N. D.' page 82 of the current vol. of the Cultivator. As 'N. N. D.' in an explicit manner acknowledged the error in part of his former communication, and as the subject in controversy is not one of great or immediate interest to the majority of our readers, 'Holkham' will pardon us if we confine ourselves to that part of his letter which shows the improbability of sterility being caused in a soil by the sulphate of iron; and its concluding paragraph:

"Let us, however, throw aside all our own reasonings and conclusions, and give our opponent *all he asks*, the sulphate and its pernicious qualities; we will then proceed to a calculation of quantities. Dr. Priestly obtained about 1700 cubic inches of sulphuretted hydrogen from a ton of manure; its weight when obtained is probably 500 grains, say one ounce. Now an ounce in a ton of such materials as we have obtained with it [the several substances that result from decomposition] may be of awful consequence, but we advise those farmers who have applied their manure without anticipating its effects, not to be alarmed; inasmuch as *mass is quantity modified by affinity*, and attraction in general is as the weight of atoms; while chemical affinity is as the weight of dissimilar atoms, those which are the *nearest in weight combining in the greatest proportion*, and those combining in the *smallest proportions* which are *most dissimilar in weight*; and two bodies whose particles are of different specific gravity, *being united*, any third body whose particles are heavier than those of the lightest, will decompose the compound and unite with the heaviest.—(Laws of Chemical Affinity or Prof Wanzeen, page 47.) Now when we come to cart out a ton of manure, and spread it upon the usual quantity of land, and mix it with two or three hundred tons of soil, we have, supposing none of the sulphuretted hydrogen lost in the atmosphere, or absorbed by growing plants, 1-10,000,000 part of the whole: if used with Dr. Jackson's one per cent. of lime, it is just 1-100,000 part as injurious as the lime is beneficial. If we now recollect that all that is lost in the atmosphere, all that combines with alkalies, all that meets with antagonist forces to prevent its joining the iron, is actually beneficial; when we recollect that a hundred thousandth part of one per cent. of lime, potash, or other alkali, all of which are evolved by the decomposition of manure, is adequate, among many other contingent agencies with which we are acquainted, and probably many minute and imperceptible principles of vegetable vitality with which we are unacquainted, to counteract the tendency to barrenness produced by the sulphuretted hydrogen, we shall begin to think that the reasoning in favor of sterility is like beating the air, more troublesome than profitable. They may well afford to grant us fertility upon calcareous soils, constituting perhaps one-tenth of the habitable earth; but we mean to have it upon *all*, because the poorer we are, the more we need assistance. And if, in addition to the loss of lime, we are to be deprived of our manure, we may, like Shakspeare's Iago, when he had lost his character with his purse, be called poor indeed. Fortunately, however, there is no land totally devoid of all alkaline substances, and upon these too we are allowed to apply our manure, because the sulphuretted hydrogen acting upon the alkali converts the whole into manure.

"Having thus ventured, with the freedom that should always distinguish the love of truth, to dissent from the opinions of one of your most valuable writers, it would be doing him injustice if I did not bear testimony to the high estimation in which his investigations are held. There are few men whose opinions I have read with more intense interest than his whose conclusions I have endeavored to controvert; and if the great object of these strictures, the leading of farmers to *think*, to take a deep and abiding interest in such subjects, is accomplished, it should, instead of being characterized by N. N. D. as a rebuke, be considered by him as a benefit derived from his contributions. With his objects I heartily concur, and if his efforts to establish an agricultural school should be successful, he may then perhaps have reason to think there is one man who can appreciate the value of the service he has rendered the public: there is *some* who, according to his limited means, will go farther to assist him; and while I express a fear that between a state and a national institute, our efforts may be paralyzed, I cannot be insensible to the infant struggles of either the one or the other."



**'Courtenay'—A Woburn Sow, the property of Dr. S. D. Martin, of Kentucky.**—[Fig. 73.]
(Copied from the Western Farmer and Gardener.)

## Swine—The Woburns.

EDITORS OF THE CULTIVATOR—In your July No. there is an inquiry by A. C., about the Woburn hog, and a request from you that I should reply, and would accompany the reply with a correct plate. I will now proceed to reply, and will furnish you with a correct plate and description as soon as a plate can be procured.

The Woburns that I have were first introduced into Kentucky in 1829, by a merchant of Winchester, (Ky.) Shortly after their introduction, I procured of him a pair of pigs, and after his death, which happened in 1833, I purchased his old sow, which I called Pennsylvania. In 1837, I procured three hogs of the same breed from Virginia, accompanied with a certificate that they were pure blooded hogs of the "*Duke of Bedford's breed.*" These three were called Belmont, Belmona, and Accident. I send you a plate of Belmont, taken when he was nine months old.—(fig. 74.)

These hogs, when I got them, were called indiscriminately Bedfords or Woburns. But after an extensive trip through Pennsylvania, New-York, Massachusetts, and other states, looking for them, and finding the hogs generally called Bedfords in those states, were not the same kind of hog, I called mine *entirely* by the name of Woburn, to distinguish them from the numerous varieties of Bedfords.

Three or four years ago, Mr. John Blackman imported from England three pigs of the Woburn breed; they were thin fine haired hogs, and I expect it is from these that the pigs spoken of by your correspondent have originated. Those hogs of Mr. Blackman's had the form and appearance of Woburns, except in hair, of which they were nearly destitute, showing a deep cross of the Neapolitan hog. So much for his first question.

To the second, as to size and disposition to take on flesh when compared with Berkshires? I would answer that the warmest advocates of the Berkshires admit that the Woburns are larger. I have tried many experiments as to their fattening qualities, all of which have resulted greatly in favor of the Woburns. An experiment was made in Jessamine county, Ky., by Isaac and Wm. Barclay. They fed a Woburn and a Berkshire boar for thirty days, to ascertain which would gain most. Wm. Barclay was a strenuous advocate of the Berkshire, and Isaac of the Woburn. The gain of the Berkshire was fifty-seven pounds; that of the Woburn was one hundred and seven pounds in the same time. This experiment was so decisive that Wm. Barclay purchased some of the Woburn stock, and after having had further proof, admits their superiority.

Another experiment made by Mr. Fanning, of the Tenn. Agriculturist, and myself, in which half-blooded Woburns were fed against black Berkshires, my pigs gained an average of 30 lbs. more in 61 days than his did in 120 days; the father of these pigs was a *white* Berkshire boar that I imported from England.

Though many of the advocates of the Berkshires admit the Woburns will gain flesh fastest, they contend that the Woburns are the greatest consumers. For the purpose of testing this matter, we shall shortly have some of each stock fed by some disinterested person by measure. Before my proposition to feed by measure was accepted, I made the following experiment:—I put up a sow (Marion) of the Woburn stock that was eleven months old, very much reduced by suckling pigs, on the fifteenth day of June, and had her fed on five pounds of corn a day, and in ten days her gain was twenty-seven pounds. No doubt a part of this gain was filling up; but it was very apparent that she had fattened. The next nine days she was so much indisposed that she only eat thirty pounds of corn, and weighed the same she had done before, having neither gained nor lost. At the commencement of the next nine days she was still so unwell as not to eat her allowance, and eat only forty pounds of corn, and her increase was twelve pounds. Under very unfavorable circumstances, Marion gave an increase of 39 lbs. in 28 days upon 120 lbs. of corn. She was in a close pen and had during the time nothing else but water, and some salt with ashes mixed with it.

Now let us see how this will compare with Berkshires. On page 67 of the present volume of the Cultivator, in Letters from the West, A. B. A. says, "I had twenty-two Berkshire swine in a small pasture during the month of August, where the herbage was so completely dried up as to give them no feed from it. I accordingly ordered them four bushels of corn per day, but this did not seem to satisfy them, and they were roving about the pasture uneasy, and I soon found losing flesh." Here is twenty-two Berkshire sows (for he tells us afterwards that they were sows) losing flesh upon four bushels of corn, which at 55 lbs to the bushel, is exactly ten pounds each.

To the inquiry how would they cross with the Berkshires, I would answer, that the Woburns cross well with all hogs that I have tried them with; with the Berkshires there is size and earlier maturity added by the Woburn, and beauty of a shorter, sleeker coat of hair, by the Berkshire.

To the inquiry, where can they be got, I answer that Mr. Blackman's Woburns can be got in Butler county, Pennsylvania, and such as I have can be got of me near Colbyville, Ky.

SAMUEL D. MARTIN.

*Colbyville, Ky., July,* 1841.

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*Soap should never be used until is a year old.*—You cannot make your soap too strong, if you will give it age. S. R.

## The Sugar Beet and Rohan Potato.

TO THE EDITORS OF THE CULTIVATOR—I have delayed any reply to the numerous notices of my remarks, which have appeared lately in the Cultivator, on the sugar beet, &c., until I could, as well as might be, learn the progress in the cultivation of this root to public favor in our country.

Now, after a number of trips through districts where three years ago the beet was freely grown, not a patch of it is to be seen; nor, notwithstanding the cultivation of this root was introduced into our country many years ago, for the purpose of manufacturing sugar, yet not an establishment for the purpose exists in our country, where a man might go to purchase his sugar. I am, therefore, induced to believe that the public is satisfied that this root, containing as it does NO STARCH OR GLUTEN—(*the grand elements of all seeds and roots known to be rich in nutriment*)—but little sugar, and nothing else except a little mucilage and woody matter, although it is a pleasant addition to a good diet, is not worth growing for the purposes of being fed to cattle or hogs. I am induced to believe likewise that a business, which has always proved itself to be a hard up hill business in France, where it can be better conducted than here, and where it would undoubtedly be discontinued the moment other sugars were admitted free of duty, will find little or no favor in our country.

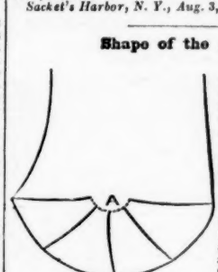
Allow me to give one illustration—it will show the value of splendid crops of beets, such as your correspondent, Mr. DIEHL, proposes to raise, and such as probably would grow upon our rich Western prairies, and I have done. A gentleman in this county, selected from a luxuriant field of beets, one remarkable for its solidity, symmetry and beauty, such an one as any man would be proud to raise, and such an one as would have gained a premium at any agricultural exhibition. It weighed 18 lbs. He dried it carefully, and then weighed it again; it now weighed 1 1-4 lbs., having sustained a loss of 92-100ths; it was reduced to a mere billet of wood.

With respect to the Rohan Potato, so far as I can learn, seed brought from the South gives the first year a yield almost incredible; but the second year it yields no more than an ordinary potato upon the same amount of land. I have said they were inferior to some other kinds for feeding to cattle, &c. To ascertain if it were true, I dried an equal quantity of this and the pink eye, and the Rohan lost 16-100ths more than the other. On slicing them one would almost drip whilst the other was comparatively dry. Some imperfect experiments showed that equal weights of both dried to the same degree gave very nearly equal quantities of starch.

Although Judge G—— and his chivalrous companions performed the feat of devouring this root, yet I do not learn that even he has adopted it, to the exclusion of other kinds of potatoes, for *his* table. S. GUTHRIE.

*Sacket's Harbor, N. Y., Aug.* 3, 1841.

## Shape of the Ax.—(Fig. 74.)



MESSRS. EDITORS—In this age of invention I have thought strange that no improvement has been made on the form of the AX; an instrument so necessary to the farmer.

I send you the shape of an ax, (fig. 74) that is considered by those who have used axes of this form, really an improvement. You see this form is circular on the edge. Near the center, on a line drawn from the two points, the ax should be thicker than axes commonly are so far from the edge. From that thickest spot A, the ax should taper on the lines, with a very small curve to the edge each way. This shape of the ax secures two properties which are valuable to an ax. One is, it does not stick when struck into wood; the other is, it chips admirably.

As axes are commonly made with little curve on the edge, and nearly of a thickness, when used with a strong arm, they sink even the points into the wood, and stick. Then it requires an effort to get them out, the helve is in danger of being cracked, and time to strike several strokes is lost. This is a hindrance to the chopper.

There is another impediment. The ax cuts a wide chip, of course it is thinner, it bends, sticks at the points of the ax, and does not rive off. One, two, or three strokes must be taken to fling the chip out. If these strokes are not well directed, the chip is cut again and a stroke is nearly lost.

By this improvement, these impediments to the chopper are prevented. The ax with such a circular edge does not stick in the wood; it cuts a narrower chip, of course it is thicker, does not bend, but rives off, so that a chip is flung off almost every stroke.

If this improvement in the ax will be of any advantage to the farmer, he is welcome to it.

A FRIEND TO AGRICULTURE.

*Lewis, Essex co., N. Y.,* 1841.

## Improvement of the Soil and the Mind.

MESSRS. EDITORS—Permit a plain farmer to express his sincere thanks to James M. Garnett, Solon Robinson, and others of a kindred spirit, for the noble and efficient efforts they are making to improve the agriculture of our country. Such correspondents to the Cultivator and other agricultural papers, are doing an amount of good which is not, we think, at present either rightly understood or fully appreciated. Time only can reveal, when abundant harvests shall wave over districts of country, now sterile and worthless from improvident cultivation, and when the whole agricultural community of our country shall become highly enlightened and elevated, the important nature of the services they are rendering. The spirit of improvement which these men have been so active and zealous in promoting, has already given an impulse to agriculture and advanced the interests of the farmer to an extent which is not conceived of by those who have bestowed but little reflection on the subject. The district of country in which the writer resides, affords a striking example of the truth of this remark. Some twelve or fifteen years ago, the system of agriculture here universally practiced, was so rapidly impoverishing the soil, that the majority of our farmers looked to emigration as the only alternative; numbers of farms were annually thrown into market and sacrificed, and wave after wave of our population was successively rolling away to the West. Now this tide of emigration has not only ceased to flow, but is beginning to ebb. The developments of the capacity of the soil (the greater proportion of which was originally exceedingly fertile and productive,) for improvement, have been truly astonishing. Many old fields, that were naked and gullied, now present an even surface, beautifully clothed in green—and our lands have greatly advanced in intrinsic, as well as in market value.

This favorable change in the agricultural prospects of our country, certainly entitle those who have been instrumental in bringing it about to the thanks and gratitude of the farming community. But there is another sense in which the services of those who have been instrumental in bringing about this change, can never be too highly appreciated. It is this, that like the former venerable and lamented editor of the Cultivator, they are laboring not only to improve the soil, but the mind. To excite in the breasts of farmers a thirst for knowledge, that they may become educated and well informed, rightly understand their own interests, and faithfully and intelligently discharge to their country the high and responsible duties which devolve upon them. How much depends upon the success of this effort will be apparent when it is considered that the farmers of this land (out-numbering and out-voting at the polls more than five to one all other classes combined,) constitute that *great majority*, who have a direct and absolute control over the destinies of the republic, and whose high elevation in virtue and in knowledge is the only perfect security we can ever have for the perpetuity of our free institutions. The opinions which we entertain upon this subject, and which we have thus briefly expressed, may possibly be thought somewhat extravagant, but, nevertheless, let the editors of agricultural papers, with their many able correspondents and coadjutors throughout the country, continue to direct their efforts, steadily and singly, to "the improvement of the soil and the mind," never suffering their zeal or ardor for a moment to abate until we are blessed with a soil highly improved, and an agricultural population highly enlightened and elevated, and we believe that then, and not until then, will our national prosperity and our national institutions be based upon a solid foundation. *Liberty, Va., July,* 1841. H. W. M.

## Hay Riggings—Answer to Inquiry.

MESSRS. EDITORS—Your correspondent, of N. J., inquires in regard to a kind of hay riggings which are best adapted to carrying heavy loads over rough roads, and one that will sustain the center of gravity longest; and which *one man can handle.* Therefore, I herewith give you a description of my rigging, which, I hesitate not to say, for hauling grain of any kind or hay, for sustaining the center of gravity, and for the facility and ease with which it is "shipped and unshipped," cannot be equaled by any that have come under my observation.

It is one which I consider "*perfect,*" (please to excuse my commendable ostentation,) made with *my own hands,* and it can speak *for itself,* for it has several peculiarities to recommend it to every farmer who has not such an important implement. And, first, it is very *light and strong,* and one man can take it to pieces, and unload it in *five minutes.* Secondly, it is not "*top heavy,*" and will transport safely as heavy loads, and sustain the *center of gravity* as long as any that I have ever used. And, thirdly, grain in the sheaf, and hay can be carried equally well on it, and when that season of the year is past when it is to be used, one man can take it to the "*farming utensil house*" and stow it away in the "dry," with occupying but a small space;—whereas, one of a huge "nondescript" form must remain wherever it can be unloaded handiest, decaying in the weather, *which is a bad streak in farming.* But to the description.

The dimension and form of it are as follows:—It consists of two ladders, fifteen feet in length, in the form of a horse's hayrack. The side pieces, or poles, are made of light pine with the bark pealed off, and about four inches in diameter, connected together by rounds fifteen inches apart, made of white oak, which extend above the pole to hold the hay. These are set on the wagon, and two light pieces of scantling, for supporters, pass under the top pole, over the bottom one and under the reach. These are fastened to the sides by means of pins. The ends are then secured by boards passing from one side to the other, with the end hollowed so as to fit snugly to the pole, and bound with hoop iron, and a pin prevents it from slipping off.

Now, this is *precisely* such a rigging as each farmer should have, if he wishes to have one that he can *depend upon* in all cases. Those which are built on a common wagon box or a square frame, placed between the stakes, and sometimes with hoops bent over the wheels, are a kind of "Joe Bunker," that you will not find about *me!*

Now, in regard to the center of gravity, *it is that point in a body, upon which being acted upon by gravity, it will balance equally in all positions.* Therefore, the center of gravity, in a load of hay, is higher in proportion to the height of the load. But in an ordinary load of about a ton it is about a foot above the top of the rigging; which brings it about seven feet from the ground. Now, the base of the wagon, being over four feet, one side must, consequently, be elevated above the other, some fifteen inches before a perpendicular line, falling from the center, will strike beyond the base, or that part of the wheel which touches the ground. Then, so long as the center of gravity lies within the base, we need apprehend no danger of turning over.

Farmers, try it and satisfy yourselves; and if my position is not *correct* (which is founded on experiment,) or if I do not have a right view of the subject, I will thank any one to correct me. It is, indeed, strange to me that when many farmers *see* and *feel* a great inconvenience arising from having such *unwieldy, huge* ipplements to handle, they will persist in the same course. This is not as it should be!

Farmers should always consult *convenience, neatness* and *taste;* and when they are following that which is wrong, and 'tis *pointed out* to them, and they become *convinced* of it, they should lose no time in setting themselves *right.*

*Tompkins co., N. Y.,* 1841. VERUS PRACTICUS COLONUS

☞ The "drawing" mentioned in the note to the above, will be "acceptable."

## An Excursion to Syracuse.

The ride from this place to Syracuse is much of it a pleasant one. A broad and almost unbroken valley stretches from Cortland to the high land known by the somewhat paradoxical designation of "Christian Hollow Hill." and descending from its northern declivity, another valley less broad, and skirted with more precipitous hills, extends to the plain on which the villages of Onondaga Hollow, Syracuse, &c. stand. Christian Hollow Hill is not far from equidistant between Cortland and Syracuse, (the whole distance being thirty-two miles,) and it is the dividing ridge between the waters flowing north and south through the two valleys, as well as the most apparent point of division between the limestone and slaty formations, and other accompanying geological distinctions, which so materially alter the agricultural character of the two regions.

I have said the ride is an agreeable one, but, probably as a matter of course, my preferences go for *home*—for the valley of the Tioughnioga. I have been some little of a traveler, have seen many sections of country generally deemed beautiful; but after returning from *any* of them, when, as has often been the case, the eastern or western stage has brought me to the summit of one of the ridges of hills which shut in our valley, and it lay stretched out beneath—it has never, in my mind, suffered by the comparison which I could not fail to institute. And yet there is nothing striking in the scenery—no wild or picturesquely grouped heights, no broad expanses of water. But there is an air of quiet beauty, of tidiness, comfort, and successful industry, which brings more genuine satisfaction to a reflecting man, than the sight of nature in her more imposing, but less *useful* forms. Not that I would dispense with every thing like taste, and refer all to the commercial standard of profit and loss. But every feature in the prospect, every tint in the Claude-like picture, the white-walled cottages, the vine-clad porches, the neatly-managed farms, and a thousand other nameless but not voiceless indicia—all tell of human comfort, of homes and firesides made happy by intelligence and taste—of advancing civilization—of a state of society beyond that where man labors merely, like the brute or wild beast, for food and shelter, his prey and his den. Is this not better than wild rocks and barren mountains? The valley of the Tioughnioga is a most beautiful farming country, and, as a general thing, most beautifully is it cultivated. And such villages as Homer and Cortland, where do you find them? I will not say there are none such—for I know several in New-England, and a few in our own state, which bear the same stamp of neatness, comfort and taste; but you may travel hundreds of miles and not meet with *one!*

It is true that on our slaty formations we cannot compete with the limestone regions in producing the great staple of our country—wheat. But what of that? In all other crops we can equal them, and in grasses surpass them: and the cattle which we raise in the place of wheat, instead of impoverishing, are constantly adding value to our lands. The grazing districts are steadily improving, while the wheat-growing ones are as steadily deteriorating; and the change on both sides is every year becoming more visible. Vicious weeds are choking up the once valuable farms of the more easterly portion of the wheat-growing district; and the same course of husbandry is producing the same results in the less worn lands of the west. But the once overlooked southern counties are every day advancing in value. What is the inevitable result? It requires but a small knowledge of mathematics to show, that two bodies advancing from opposite points in parallel lines, must ultimately reach the center of the distance which sepatates them, pass it, and reverse their original position. If the wheat country continues to degenerate, ours to improve, the consequences are obvious. Even now, I hesitate not to say, that taken year by year, the grazing yield as great a profit on the capital expended as the wheat-growing districts.

But what has all this to do with an "Excursion to Syracuse?" The truth is, Messrs. Editors, if I mount one of my hobbies I am sure to be run away with! Now, a word in relation to the valley of the Onondaga creek, known popularly as "Christian Hollow." Whether the first part of the appellation was originally bestowed on it, on the *facus a non lucendo* principle,* or from the sirname of a Dutch family residing in the hollow, I am unable to say. The land is evidently of a superior quality. Seven miles from the hill brings you to the borders of the Onondaga Reservation, occupied by the Onondaga Indians. The land lays, I believe, in a rectangular form, and is four miles by three in diameter. The state last winter appropriated $5,000 for the improvement of the road through it, before which it was nearly impassable in wet weather. The work is going on, and appears to be well done in the finished sections. I was mightily amused at the appearance of some Indian *bucks*, with gaudy belts, "soap locks," low floating hat bands, and that certain jaunty cock of the hat and indescribable air which always characterizes the dandy genus, whatever the color of their skin. Human nature is the same in Broadway or in an Onondaga forest! It is seven miles from the Reservation to Syracuse, through some of the finest land in the county. Onondaga Hollow, four miles from that place, once so thriving a village, has been ruined by the advantages of its more fortunate competitor.

Syracuse exhibits more business, more bustle and activity, than any other place "of its inches" I was ever in. One would think the Syracuse House the focus of one-half the traveling world, such is the constant influx and efflux of travelers. But "mine host" finds time also to be a farmer. He is the owner of a small farm, one of the most beautiful about Syracuse, which is tilled like a garden. I accompanied Mr. Rust over this establishment, and to say nothing of his farming operations, I saw some cattle and hogs, such as are not often met with. A yoke of fattening cattle, beautifully symmetrical in their proportions, and weighing about 3,000 lbs. a piece, are not seen every day! Mr. Rust is a capital feeder. Last year he slaughtered a five year old ox, the hide, quarters and tallow of which weighed 2,089 lbs. The quarters weighed 1,688 lbs. He kills about 100 hogs annually, and gives a decided preference to the Leicester breed. This variety was imported into Wayne county a few years since. They grow very large, well-fatted ones often reaching from 500 to 800 lbs. They are thin-skinned and are easily kept, considering their size. Mr. Rust's store hogs this season are a cross between these and the Berkshires, by a boar purchased of Mr. Lossing. They are a beautiful lot of swine, but are smaller than the Liecesters, and Mr. R. thinks not so profitable. I am a Berkshire man most decidedly, but my motto is in these matters, "*hear both sides*," and I am willing to confess that Mr. R. showed me Liecesters which I have rarely seen equaled by their more successful rivals. One sow, in an especial manner, only lacks a high sounding *name*, and the application of a certain process termed "*puffing*," to be as well worth her *hundreds* as some others. At all events, she has given her owner, in two litters of pigs, both of which were killed before the oldest were fourteen months old, 6,000 lbs. of pork! Here is a fact worth more than *puffs* or *pictures!*

I accompanied Maj. Burnett, the late popular and gentlemanly representative of Onondaga county, to see some young grade cattle which he has bred. They were of a nice quality. I am more and more convinced daily, that let our professional breeders turn up their noses as much as they may at grade animals, a judicious cross with our native stock (one cross and afterwards bred towards the Durham,) will one day be troublesome competitors. When the "time has come, and the man has come," we shall see. Let it be borne in mind that even the Herd Book Durham is the result of *fortunate crosses*. The same is true of Berkshire hogs, the blood horse; in fact, nearly all the most valuable varieties of animals. I have a word more to drop on this subject, at some future day.

In the cool of the day, I had a delightful ride with Mr. Noxon, the celebrated advocate, to "Green Point," a farm of his, lying two or three miles out of town. It slopes up from the banks of the Onondaga lake, and from the farm house, a neat and substantial stone building, you have a fine view of the adjacent country. Another legal gentleman is constructing an elegant mansion on an adjoining farm. Mr. N. is but a beginner in breeding improved cattle, but has a fine young bull from the herd of Mr. Prentice, of Albany. He told me that 100 acres of the farm was cleared in a single season, fenced, and put into wheat. The crop repaid every item of the whole expenditure, interest, &c., as well as expense of harvesting, thrashing and marketing, and a nett profit over and above all these, of *five dollars per acre!* Pretty good farming that, for a lawyer! But one has but to talk half an hour with such a man as Mr. N., or he could tell even by hearing him try a cause, that the native shrewdness, the deep substratum of good common sense which pervades the whole man, would lead to success in any thing. In these particulars, he reminds me strongly of our Vice President, ——.

I was told that Harvey Baldwin, esq., has some improved cattle, but as he was absent from home, I did not see them. He formerly owned several valuable animals. He has recently purchased some imported stock, which, from the description I received of it, I conjectured to belong to the Holstein variety, sometimes called Dutch short horns. They are one of the parent stems of the improved short horns of England, but are coarser, and possess less aptitude to fatten; and in the place of being red and white, they are black and white, with black muzzles, &c. They were introduced into the United States a number of years since by Consul Jarvis, and I have been acquainted with individuals of the family crossed with the Holderness, (which is about the same thing,) and also with the Durham. They are a valuable variety of cattle, but not so valuable as the improved short horn.

Onondaga is suffering fearfully from the drouth, and unless rain comes soon the effects will be terrible. Vines exposed to the sun are dying, and I saw fields of corn the leaves of which are beginning to wither, as if nipt by frost. Roots of all kinds have ceased to grow, wells and water courses are drying up, and even fruit trees of some varieties begin to exhibit indications of perishing. I think a fortnight more of this weather would not make Cortland dryer than Onondaga is now. Not quite so much rain has probably fallen in Onondaga; but here is another advantage of our kinds of soil—they will bear drouth far better than the clay and limestone soils of the wheat region.

How we worked yesterday, (for you were there, Mess. Editors,) need not here be recorded, and as the sun was sinking in the western sky I turned my horse's head homeward. A delightful moonlight, or rather starlight drive, (for there was no moon,) brought me to a little story and a half farm house, where a troop of

"—— expectant wee-things [would] toddlin stacher thro'
To meet their dad, wi' flichterin' noise and glee,"

had it not been midnight, and every soul of them abed more than three hours. *Cortlandville, Aug.* 19, 1841. H. S. R.

* Freely translated—"called light because it is dark."—Eds.

## Berkshires Imported by S. Hawes, Esq., in 1832.

Messrs. Editors—In the last number of the Cultivator, we observed what is said to be the "History of the first Imported Berkshires," over the signature of C. N. Bement, of Albany. However contrary it may be to our custom or inclination to encroach on the columns of your invaluable periodical, as breeders of Berkshires, we feel it a duty we owe our numerous patrons to inform you, that the distinguished proprietor of the "Three Hills Farm," in his "History of the first Imported Berkshires," is altogether in an error as regards their number. After giving a long and minute account of the three pigs, Mr. Hawes took with him to Albany, at the time of taking possession of his farm in 1832, and his two subsequent importations, &c., he goes on to say, "the foregoing comprises what is termed 'Hawes' Importation,' and came into my possession in 1835, from which most of the Berkshires in this country originated."

Now, Messrs. Editors, the true state of the case is this. That Siday Hawes, Esq. did not only import three, but six Berkshire pigs in 1832,—two sows and a boar of this importation he kindly presented to us, besides two boar pigs bred by himself while at his residence in the vicinity of Albany, and from which our Berkshire pigs were descended, until our new importation, which Mr. Hawes sent us out in the fall of 1839.

Should the author of the "History of the first imported Berkshires" feel in the least doubtful respecting this statement, we would beg leave to refer him to Mr. Hawes, who is at this time a subscriber to the Cultivator, and will in all probability read "the History, &c.," in the last number in about twenty days from the time of its leaving the press.

*Canterbury, Orange co., N. Y.* A. & G. BRENTNALL.

## Filtering Cisterns.

Messrs. Gaylord & Tucker—As good wells cannot be had in many parts of our country, permit me to recommend the construction of filtering cisterns. Where they were first made, or by whom, I cannot tell, but having drank water from them several years ago in Dutchess co., N. Y., I can speak in positive terms as to their excellence. They may be constructed as follows:—In the first place make a large cistern in the ordinary manner, of stone or cement—then build a partition wall in the center, resting on a low arch, or having holes left underneath for the water to pass freely from one side to the other; carry this wall to the top of the cistern. On each side of the center wall, at the distance of a foot or eighteen inches therefrom, construct parallel walls four feet in height. These walls may be made of brick 4 inches thick, and well coated with cement on both sides, so that the water will in no place come in contact with the brick. The spaces between the 4 feet walls and center wall are to be filled as follows:—First, gravel to the depth of 4 inches; secondly, charcoal sufficiently pounded to lay compact, then clean white sand, and then charcoal,—and so alternating till the spaces are filled, the top layer being gravel to keep the charcoal from rising. The modus operandi is as follows:—The water from the roof is conducted to one apartment of the cistern, and when it has risen to the height of the 4 feet wall it begins to filter through the sand and charcoal till it reaches the bottom, then passing under the partition wall it rises through a similar filtering bed and floors into the other apartment of the cistern, from whence it is drawn for use, clear and sparkling as from the purest spring. If the cistern is made of sufficient depth the water becomes as cold as that in common wells, and as much better as can well be imagined. *Bowling Green, Wood co., Ohio, June 3d.* P.

## Dr. Martin's Pig Beaten.

Messrs. Editors—I observed in the July number of the Cultivator a statement of an experiment made in feeding Berkshire and Woburn Pigs, which has induced me to send you the weight of my pig taken to-day, in the presence of some eight or ten respectable citizens. 'Suze' is 4 months old to-day. Her dam is a middle size white English sow, and her sire a pure blood Berkshire, from the stock of John Lossing, of Albany, and she weighs alive 142 lbs. She was weaned at seven weeks old, at which time I received her, and would not have weighed 25 lbs. My cow, which is half Devonshire, dropped her calf three days previous to this. My pig lived on the overplus milk. After the calf was supplied for four weeks, I gave the whole of the milk to the pig, which is about six gallons per day, (save a little for family use.) I purchased this pig of Mr. Little, jr., near this place, who has taken considerable pains to procure the pure blood Berkshires from Mr. Lossing. Farmers in this vicinity desirous of improving their stock of hogs, would do well to call on Mr. Little. JAMES JONES.

N. B.—You will understand the above is buttermilk.

*Hackettstown, Warren co., N. J., Aug.* 9, 1841.

## Epidemic among Cattle.

For the last five or six weeks a terrible distemper or epidemic has been raging among the cattle in and near the city of Troy. Since it first broke out, between thirty and forty cows have been attacked and most of them have fallen victims.

Being there a few days since on a visit, I was called to see a cow in the last stages of the disease. She belonged to a laboring man, and was the second one of his which had been attacked. The first intimation he had of her illness was the great decrease of her milk in the morning, as on the evening previous she had given her usual allowance, and nothing was observed unusual in her appearance.

It was about 4 o'clock in the afternoon, of the day she was taken, that I saw her—she was lying down, unable or unwilling to move. She did not appear to have any fever, the dew stood freely on her nose, her breath was not unusually hot, her ears and the roots of her horns seemed to have their natural temperature; no heaving at her flanks, and no appearance of pain, though occasionally she would turn her head to her side. Her cont was rough and staring, her eyes dull and weeping; a bloody fetid discharge at her nose, excrement thin, black, and very offensive, and her strength rapidly diminishing, and when I left, which was about an hour after I first saw her, she was unable to raise her head, her eye glassy, and I was informed she died from 15 to 20 minutes after.

On questioning the owner I learned that for a week or ten days previous to the present attack that he had discovered a slight cough, but did not consider it of any consequence or alarming. Other cases have occurred which have proved equally fatal, when no cough or other symptoms have been observed, until a few hours before their death.

The distemper appears to be confined to the low flat meadows, on the side of the river, south of the city, and confined to two farms adjoining each other, where a large number of city cows are pastured, as well as where the proprietors keep cows for supplying the citizens with milk. One having lost five and the other six cows. It appears to have no regard for age or condition, the young and old, the lean as well as those in good condition, all are equally subject to it, and it is equally fatal to all.

Many conjectures are afloat as to the probable cause of the disease; some attributing it to a poisonous weed or herb which they are induced to eat, in consequence of the scarcity of grass, which has been killed by the drouth, while others contend that it is a miasma floating in the air. Be the cause what it may, it is certainly very alarming and requires investigation; and should any more cases occur I would advise the owner to call on Dr. Wright, a veterinary surgeon of great skill, who may be found in Hamilton, between Green and Pearl streets, Albany.

On post mortem examinations no traces of the disease have been discovered, but they were not made by competent and experienced persons, of course, no reliance can be placed on them.

*Three Hills Farm, Aug.*, 1841. C. N. BEMENT.

Editors Cultivator—The following recipe is left, with a drum of dried fruit in all respects resembling figs, at the patent office. The fruit tastes remarkably well, and I have no doubt that the information will be gratifying to your numerous readers. I send you also a jar of the "tomato figs."

*Washington City, Aug.* 18, 1841. H. L. ELLSWORTH.

## Tomato Figs.

*Prepared by a Lady in Washington City, D. C.*

Process—Take 6 lbs. of sugar to 16 lbs. or one peck of the fruit. Scald and remove the skin in the usual way. Cook them over a fire, their own juice being sufficient without the addition of water, until the sugar penetrates, and they are clarified. They are then spread on dishes, flattened and dried in the sun. A small quantity of the syrup should be occasionally sprinkled over them while drying; after which, pack them down in boxes, treating each layer with powdered sugar. The syrup is afterwards concentrated and bottled for use. They keep well from year to year, and retain their flavor surprisingly, which is nearly that of the best quality of dried figs. The pear-shaped, or single tomato, answers the purpose best.

Ordinary brown sugar may be used, the larger proportion of which is retained by the syrup.

## Imported Berkshires.

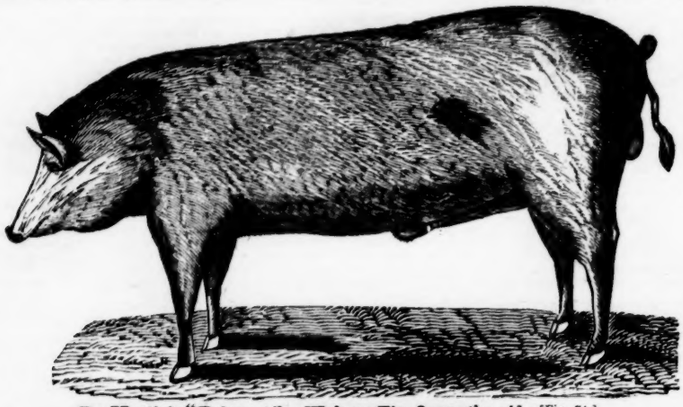
By a letter received a few days since from Mr. A. B. Allen, now in England, I learn that he has made two shipments of select Berkshire swine to New-York, where they will probably arrive before your September paper goes to press. He has traveled all over the great pork counties of England, and finds the Berkshires to excel every thing of the swine family in that country. But those of extraordinary size and perfection of form are scarce and high. A number such, however, he has found, and regardless of expense, he has secured them for exportation to America. He has a boar, "Windsor Castle," bred near that place, which will weigh in good flesh 800 lbs., now 2 years old. Another, "Hagbourn," 14 months old, will weigh 500 lbs. The last, he says, is the same figure as his famous sow "Raven Hair:" and although he does not say "these are the finest swine in all England," yet they are the finest that *he* has seen. He was going down to Sussex to find the *largest hogs* in the kingdom, and if their apparent qualities warranted, would probably select a few to gratify the cormorant propensities of some of our western gentlemen, which nothing but inordinate size can gratify.

The most extensive and scientific swine *breeder* he had yet found, was the Rt. Hon. Shaw Lefevre, speaker of the House of Commons, who has an extensive estate in Berkshire; and noble dukes, earls, and right honorables, *go into* active competition with the humbler citizens of the empire, in the improvement of their farming stock, with as much zeal as they enter into a plan to double the produce of their acres, or increase the profits of their mines. When *mind*, in our country, is thus applied to the development of matter in agriculture, as unhappily for our true interests it is not, then shall we witness equal success and improvement, and then will the landholder take his true position in wealth and influence with the other professions of our country.

Mr A. had made a few selections of Southdown sheep, and was shortly to visit the three days' fair of the Royal Agricultural Society in Liverpool, and after that, to go into the cattle regions of Yorkshire and the north of England, from which he would return through the middle counties, to Bristol, and take passage for home on the 1st September by the Great Western, where he will probably arrive by the 20th of the same month.

Very truly, yours, L. F. A.

*Black-Rock, N. Y., Aug.* 14, 1841.



**Dr. Martin's "Belmont," a Woburn Pig, 9 months old.**—[Fig. 74.]

MESSRS. GAYLORD & TUCKER—Gentlemen—Accompanying this you have a plate of a Woburn pig, Belmont, taken at nine months old. This pig appeared to be perfectly round in the body, but measured a little more from breast to back than through the sides.

They are of great length, large girth around the body, broad and flat on the back, legs of medium length (the hind legs frequently a little longest,) well tapered down to the foot—stand well and straight upon the legs and feet. The head is small for the size of the hog, with small ears, generally erect, though some have their ears to droop. The prevailing color is spotted with white and black; many of them brown and black. Their hair is long and coarse. They come early to maturity, fatten easily, attain a large size, are productive in pigs—are very gentle and docile in disposition, not disposed to be restless or to get out of enclosures.

As soon as I can get a plate of a grown Woburn, I will forward it on to you. Yours, respectfully,

SAMUEL D. MARTIN.

*Colbyville, Ky., July*, 1841.

## Comments on the Ju'y No. of the Cultivator.

MESSRS. GAYLORD & TUCKER—Although perfectly aware that you cannot find *room* in your paper to publish all the communications which are sent to you, and that you must have much difficulty in making selections from such as you partially notice; yet I am sure there are many of your readers who often regret that your extracts from those had not been more extended. Mr. Colman's Address, I think, furnishes an example; for supposing your other readers have somewhat similar tastes with myself, I must believe that there are hundreds of them who would have been much gratified had you given them at least his argument to prove that "Government is bound to protect and promote Agriculture as the surest means of promoting and securing the happiness of a Nation,—the great object for which all governments are instituted." You, as well as all other true friends of American husbandry, know but too well that there are still among our law-makers, both State and Federal, very many hard heads most wofully deficient in all the various species of knowledge which every legislator should possess; and Mr. Colman's hammer, perhaps, might have beat into these enough at least to aid materially the long neglected cause of Agriculture. Forlorn as I acknowledge the hope would be, still the effort was worth making.

In regard to Mr. A. B. ALLEN's trip to Europe, I readily admit that his objects are highly laudable; and that there are very few, if any of our agriculturists, better calculated to make his visit beneficial both to himself and his country. But it furnishes occasion for a few remarks, which I am almost afraid to offer, since the act will be something like swimming against an almost irresistible wind and tide. Still I will hazard them. To import cattle and hogs at enormous prices has grown into a most violent passion which now pervades our whole country, and resembles nothing that we have ever seen before but the Merino-mania which grew at last to such a pitch that to get *the best*, which should have been the first object of the purchasers, became secondary to that of having their name published in all our newspapers for having given *the most* for their whistles. Far, very far am I from wishing to discourage the importation of fine bred cattle, hogs, or any other improved stock. But I must say that there is a limit in price which seems to me to have been already passed, by some hundreds of dollars, *that* amount by which the purchasers can reasonably expect to make any profit. Although not yet the owner of either imported cattle or hogs, I have seen and known enough of both to be perfectly certain, that unless much more care and experience are bestowed upon them, than upon the breeds of each which we already possess, the superiority of the former, even admitting its existence, will not remunerate those purchasers who have given such prices as have been published in our newspapers.

On the subject of butter, I think we may venture to say that the best mode of preparing and preserving it good, will never be ascertained and generally known until those who have large dairies will take the trouble to make and publish fair and full experiments between all the different methods which are most highly recommended. Let them do this, and all butter makers, from the greatest to the least, will soon know which process is best. But until then, they may go on to the end of time without attaining this very desirable knowledge.

In regard to inoculation, a single remark, perhaps, may be useful in addition to those which you have made. It is, that grafting has been ascertained to be best for all fruits which have soft seed, such as apples, pears, &c., and inoculation best for those which produce hard seed, as cherries, peaches, &c., although either mentioned may be applied to all kinds. The best season for grafting is in February and March,—for inoculating in July and August. Cuttings for inoculating may be kept alive for several weeks during summer, if excluded from air during the day, in tin or glass vases, and spread out at night either in the dew, or in some wet place.

Under the head of "*Work for the Month*," permit me to add the following remarks to your own. As a general rule for the culture of corn it may be said, that until it begins to tassel and shoot, we should work the ground whenever it begins to bake, but *never* when it is wet; and that nothing will guard the plants against drouth so well as the free use of the single coulter in the early stages of their growth.

In regard to the "*saving seed and herbs*," I beg to make the following inquiry, which I hope some of your correspondents will answer. Is there not a material difference between the seeds produced by the central and the lateral stems of the parsnep, carrot, celery and parsley, the middle heads being always the largest and soonest ripe? If there is that difference, which I believe really exists, then none but the seed of the center stems should ever be gathered.

On the subject of corn culture, I regret much to differ in some respects, both from yourselves and Mr. J. McMillikin, whose communication to the Hamilton Intelligencer you so highly commend. But agreeing with you as to the great importance of this crop, not only to the west, but to every part of our country, I hope you will excuse me for stating in what it is that I cannot agree. In the first place Mr. McMillikin has laid down his rules as universal, whereas there are very obvious exceptions to two or three of them. For instance, in his second rule he enjoins that all land "*should be plowed six inches deep*," whereas almost every tyro in agriculture knows that the depth to which any land should be plowed ought to depend on the depth of the soil, and the nature of the sub-stratum, both of which differ materially, in different parts of our country, and often on the same farm. His third rule tells us that "*while small, the corn should be harrowed, and the ground should afterwards be kept loose and mellow by the repeated use of the cultivator.*" Now I venture to assert from at least fifty years experience, that *no stiff soil can be kept thus* without the use of the plow or single coulter. Nay, that the finer you pulverize such soil, the sooner it will bake hard after a rain in very hot weather. To keep it in a friable state, no tillage whatever should be given it when wet, and when given it should always be deeper than that which very light lands require. In Mr. McMillikin's sixth rule he says that "*the fibres or small roots of corn should never be cut, &c.*" To this there is one small objection: it *never can be executed*,—that is, if you give any cultivation at all to corn after it comes up. For we all know that a large portion of the roots of this plant are horizontally, and so near the surface of the earth that no implement ever yet invented can possibly be so used in its culture, as to avoid cutting many of them. Many of us know also that very fine crops are often made where only the plow and hand-hoe have been used. Two of the best corn growers I ever knew relied solely on those implements, and none of their neighbors made larger crops in proportion to the size of their farms. Their plows, too, were always of the size for two horses. A still more remarkable case than the two just mentioned, to prove that the cutting of corn-roots does not sensibly affect the produce of the plant, (if indeed it be not actually beneficial,) is stated in the Farmer's Register, for October, 1840, in a letter from Mr. W. W. Stinson, of Arkansas. This gentleman states, that in 1834 he planted a small lot of corn in a light, silicious soil, with a red clay subsoil, the hills 4 feet apart. He cultivated solely with the single coulter, running it both ways, seven or eight inches deep, the strokes 8 inches apart, and within 4 inches of the plants. The summer, he says, was very dry and warm, but his corn "*never twisted at any time*," although the coulter was used 4 times!! In confirmation of this statement, I will add one of my own. Several years ago I had a corn-field, the soil of which was dry, and of medium quality between light and stiff. Alongside was one belonging to a neighbor. Both were alike in soil, fertility and situation. His was well cultivated solely with the single plow and hand-hoe. In addition to this culture my own was twice coultered. We had a very severe drouth—the consequence of which was that his corn was nearly destroyed a fortnight, at least, before mine began to fire. Soon after the weather became seasonable, and I made a much better crop than he did. Furthermore, I can truly say, that in the course of a long life, I have seen thousands of very fine crops, in the culture of which no other implements were used but the plow and hand-hoe. The facts which I have stated of my own knowledge are undeniable, and could be confirmed, if necessary, by a host of unimpeachable witnesses; and therefore we must discredit the evidence of our own senses, before we can believe that the cutting of corn-roots will lessen the produce of the plants. The contrary opinion you assert to be "*directly at variance with every well established principle of vegetable physiology, and is opposed by the experience of multitudes of the most successful corn-growers in the country.*" In support of this affirmation you give us Liebig's position, which you say "no one can controvert"—"*That the size of a plant is proportioned to the surface of the organs which are destined to convey food to it: A plant gains a new mouth and stomach with every new fibre of root, and every new leaf.*" In this position of Mr. Liebig's I perfectly agree; but I deny that it disproves the opinions of those who differ from you and Mr. McMillikin; or that their creed is "directly at variance with every well established principle of vegetable physiology," &c. In the latter clause of the sentence of which this is a part, I will agree with you, if you will substitute the word *opinion*, for "*experience*;" since no such accurate comparative experiment has ever yet been published as alone can determine which party is right. Such an experiment would be the following:—Let a few trust-worthy farmers, in different parts of our country, take two small lots, as nearly alike as possible, in soil, fertility and situation. Plant both with corn at the same time, cultivate the one in the most approved way which will cut most roots; the other in the most approved way that will cut the fewest; for some will inevitably be cut by any mode of culture ever yet tried. Then, if either lot produces more corn than the other, it will be proof undeniable that the way in which that lot has been cultivated is best. Should this be the way in which most roots were cut, the effect, I think, may admit of such explanation as fully to accord, not only with Mr. Liebig's position, but with "*every well established principle of vegetable physiology*," instead of being "directly at variance with them." It is this. I, and numerous others, believe (and no experiment has yet disproved our opinion,) that when the end of a corn-root is cut off, fibres enough will soon sprout out from it at least to compensate, if they do not more than do it, the loss of fibres caused by the excision. This we find to be the case *above ground*, with all trees, plants and vines whose extremities it is customary to cut off for the purpose of thickening their growth. Now, if the same law govern *under ground*, the fibrous roots of corn must be multiplied by cutting their extremities in the early stages of its growth; and thus Mr. Liebig's position be fully verified.

The last sentence in the paragraph on which I am commenting, contains a misrepresentation (but I am far from thinking it a wilful one,) of our opinion. You say "*corn is always benefitted by frequently stirring the ground*" and as plowing does this, *the advantages conferred has, by some strange process of ratiocination, been supposed to be the result of cutting the roots.*" This would be a strange process indeed, had it ever entered into any of our noddles, but so far as I know, it never has. We are quite as strong advocates for "*frequently stirring the ground*" as you or Mr. McMillikin can possibly be. We deem it indispensable to the proper culture of corn as well as to that of most other plants. But the "*stirring*," according to our notion, must be considerably deeper than the surface, unless where turf has been turned under, effectually to benefit corn; say from 6 to 8 or 9 inches at first, and gradually shallower until the last working, which should be shallowest of all, because the roots have then nearly or quite attained their full growth, and will put out no more fibres if cut. The root-cutting we consider an unavoidable consequence of that depth of tillage to which principally we ascribe the superiority of the corn crops thus cultivated to those which are made by shallower culture. If any of us have ever spoken or written in such a way as to lead to the belief that we supposed the advantage conferred on corn "by frequently stirring the ground" was ascribable *solely*, or even *chiefly* to cutting the roots, I can only say, that we have made sad havoc of our mother tongue, and should go to school again; but I have not yet met with the man whose mind has ever been mystified and obfuscated by "so strange a process of ratiocination."

I have undesignedly extended my remarks on Mr. McMillikin's 6th universal rule so far, that I must be brief in what I have to say on his 8th and last. His words are,—"The ground in the cultivation of corn should be kept as level as possible," &c. This is true only of high and dry land: for every corn-grower knows that if your land be wet, it must be thrown up and cultivated in beds from 4 to 5 or 6 feet wide;—nay more, that unless this be done you can scarcely make corn at all on any such land.

A few more words on your last sentence, and I have done with the article on the "Culture of Corn." Thus it runs—"*Manure highly, plow deep, make your land dry, use none but good seed, keep the surface frequently stirred, and you may safely leave it without any inequalities, and permit the roots to dispose of themselves as they think proper.*" In the first part of your sentence I heartily concur; but how we can "plow deep" without cutting the roots of the plants; and how those roots, when cut, are "to dispose of themselves as they think proper," remains to be explained. [*]

The wish of your correspondent who signs himself "A Subscriber, Warwick county, Va." to ascertain the best method of cultivating Indian Corn, is certainly a very laudable one; but it can never be attained in the way he proposes. This is, for your subscribers in different sections of our country to communicate their different methods of culture. Now these sections differ so much in climate, soil, fertility, and situation, that it never could be determined with any certainty, whether the reported superiority of any particular crop made in one section, to a similar crop or crops made in another section, was ascribable chiefly to either or all of the above circumstances, or to the mode of cultivation. The only way in which the matter ever can be settled, would be for a few of these subscribers in each section (the more remote the better,) to compare, on their own farms, all the most approved modes of culture. For this purpose let them choose a small piece of ground of uniform soil, fertility and situation; prepare the whole exactly in the same way; divide it accurately into as many equal parts as there are modes of culture to be compared; plant them all on the same day, at the same distances, with one variety of corn in each trial, and afterwards bestow the same care and attention on each division, with as much impartiality as if they were trying a jury-cause between man and man. Incurably obstinate would then be the man who would not at once agree that the method of culture pursued on the division which produced the most corn, was certainly the best. This experiment every corn-grower could easily make for himself; and I cannot even imagine any other way by which the numerous and apparently endless discussions about the best modes of cultivating corn can ever be concluded.

If there are still any gainsayers in our whole country, in regard to the value of the sugar-beet for feeding stock, I would beg them to read attentively your extracts from the communication of Mr. Diehl, of New-Orford, Pa. The great importance of root crops is not doubted by any body whose opinion is worth a straw; it is, therefore, a matter of deep interest to all farmers to ascertain which are the most valuable of all the varieties of roots that are now cultivated.

Your correspondent L. R. Jr., of Knox co., Illinois, seems to require no information in regard to that highly valuable timber—the yellow locust. But some others, perhaps, may not be aware of one important fact in relation to the seed, which he has omitted. If they be soaked in warm water, before planting, until they swell, they will come up as readily as peas or beans, whereas they will not vegetate for many months if planted without soaking. I may add that this process accelerates the coming up of all seed of similar hardness.

Mr. John Johnson, of Ontario co., N. Y., calls all "simpletons" who believe in the convertibility of wheat into cheat. In this he is somewhat unjust, for many of them are really men of good sense; but they are like the two knights, who, as the story goes, once fought a desperate battle about the color of a suspended shield before they had examined both sides of it. And they will continue to fight until the end of time, unless, instead of battling with mere assertions, they will condescend to take the trouble of making such accurate experiments as can alone settle the controversy. I say this for others, not for myself, since, although once sceptical on the subject, I have long believed that it would be quite as easy for pumpkin seed to produce live oaks, as for wheat to produce cheat. Still I admit that there is nothing impossible but for a man to bite his own nose off, and therefore pledge myself to give up my opinion the moment those who differ from me can prove that they are right by such an experiment or experiments as all will agree have been perfectly accurate.

If Mr. David Tomlinson be right in requiring that *every thing new*, or rather what may be so called, should be published in your paper, then you should certainly change the title, and call it an Encyclopedia. For so many new things are constantly being discovered in all the arts and sciences, that an agricultural paper such as you designed yours to be, and such, I believe, as a vast majority of your subscribers wish it to continue, could no more contain all these novelties than Noah's Ark could have contained every living thing that was in the world at the time of the universal deluge.

COMMENTATOR.

[* The "deep plowing," as well as the manuring and draining, is to be done before the planting, and consequently before the "roots" are formed.—EDS.]

### Tobacco Scaffolds.

It is an old saying that necessity is the mother of invention. Living in a part of the country where wood and timber is scarce, especially those kinds which are used in housing a crop of tobacco, (which has been extensively cultivated in this region from 40 to 60 years) viz. poles and forks, and having neglected to prepare forks and poles for the housing of my last crop until they were wanted, we found a good deal of difficulty in getting such as were suitable in a convenient distance. I then thought of the substitute, which I will briefly explain, as the tobacco grower will shortly have a use for them. Procure 8 poles 22 feet long, (every grower will know how large,) 6 blocks 2 feet long, 15 inches in diameter. Place 3 blocks on end in a row about 8 feet apart; then the other 3 parallel to and 12 feet from the first; upon these two rows of blocks, place two of the strongest poles, the ends extending 3 feet at each end, beyond the outside blocks; across these two bed poles arrange the other 6, equidistant, which is about right for sticks 4 feet 6 inches long. These 6 blocks and 8 poles will give a scaffold 22 feet square, which will hold about 200 sticks of tobacco, which scaffold can be enlarged to any desired extent. This seems to be so plain and simple that it is hardly worthy an insertion, but if it should be the means of helping a young planter out of a tight place in housing season, I shall be highly gratified.

*Buckingham co., Va., Aug. 5, 1841.* G. M.

### Management of Bees—No. 5.

(*Continued from page* 134.)

About the 20th of September, or a little later in the season than this, according to the climate, is the appropriate time for uniting swarms of bees for wintering, as the young ones are principally hatched out at this time, and the breeding season closed for the year; moreover, feeding should be attended to before cold weather will prevent the bees from carrying down the honey from the chamber, which is the best feeder I have tried to use.

To unite the bees of two hives most easily, the hive designed to receive the bees of the other is inverted, and the stranger hive set over it, bottom boards off, entrances closed to prevent the escape of bees or the smoke of fungus (puff ball,) when that is blown into the lower hive. When this experiment is performed by a skillful manager, the bees of both hives are paralized without injury, and are all found together in the lower hive, in five or six minutes, ready to be returned to its place in the apiary, after confining a screen wire bottom board to the hive, to prevent suffocation. The entrances to the hive at this time should be kept closed a day or two, to allow the bees of both swarms to mingle and become associated with each other before they have liberty to go out to work.

The fungus (puff ball) recommended should be picked soon after it begins to turn brown, to prevent the weather from exhausting it of its paralizing quality. As too much heat might injure its quality, it is recommended that the balls be laid in the oven after the bread is out, so as to render it perfectly dry; then it will burn like touch wood without blaze. This fungus, when prepared in this way, is placed in the fumigator, ignited by a lamp, and blown into the hive, which soon accomplishes the experiment. And here I ought to remark that I am greatly indebted to Col. H. K. Oliver, of Salem, Mass., for this valuable information. Col. O. is the inventor of the Fumigator. It is a sheet iron box that will hold about three pints with <◯> a cover, and a tube each side, forth a strainer like a tea-pot, to keep the fungus in its place, when the smoke is blown into the hive from the mouth of the operator. I can state, on the authority of Col. Oliver, who is one of the most skillful apiarians of the present age, that "notwithstanding the bees are so perfectly paralized by this operation as to appear lifeless, yet they all resuscitate in a few minutes, and are as active and ambitious as ever." Old weather-beaten puff balls will not do this. "It will paralize the bees, and injure them too!" But one serious objection can be urged against uniting feeble swarms in the fall; most of the bees of the stranger swarm are unconscious that they have been removed, and when they commence working from their new abode, they will return to the place where the hive stood, from which they were removed; and if they are not soon taken care of they will cluster there in small bunches and finally perish, or many of them may attempt to associate with other hives, and are taken as robbers and put to death. But this may be remedied by placing an empty hive, containing an empty piece of comb, where the old hive stood, as all the wandering bees will cluster on this empty comb in the day time, the comb and bees may be returned to the chamber of the hive containing their companions every night. This need not be continued but a few days, for the cluster on the empty comb will gradually diminish, and in a short time the bees will all become accustomed to their new residence.

The practice of uniting feeble swarms of bees in the fall has already been adopted by many apiarians in this country, with the finest success; and I hope soon to see this system generally adopted. Tobacco smoke may be substituted for the puff ball, but should not be used when the former can be obtained.

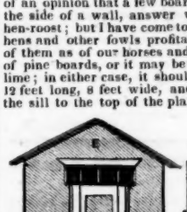
M. D. E. Gelieu, the modern French apiarian, uses tobacco. By blowing a little tobacco smoke into the entrance of the hive from a pipe, the bees are disarmed at once of all hostile feelings; the hive is then turned over on its top, the combs and honey all taken out, the bees brushed off into the hive with a goose quill, and the hive set in its place. At evening all the bees will be found in their own empty hive. Now a little smoke is blown into the hive designed to receive them, and also a few whiffs blown among the stranger swarm, to render the scent of the two colonies as near alike as possible. When this is done, the hive containing the bees emptied of its combs and honey is raised from its place, so that when the hive is dropped suddenly upon a table cloth with one end fastened to the bottom board of the hive that is to receive them, the whole swarm is found on the cloth. Now a trail of bees is made on the cloth by a few spoonfuls of bees to the entrance of the hive, and the swarm enter like an army of men storming a fort without slaughter; and the bees of both hives mingle and work as one family.

Hives nearest each other, only, are to be united in this way. Nearest neighbors, only, among bees associate easily, while swarms standing at a distance, others residing between, are united with "infinite labor." But I must hasten to another improvement in the life-preserving principle, which is referred to in my Manual on Bees, page 105, new ed., but omitted in the copies forwarded to the printer by mistake. It is this:—Prune out the dark colored combs so that the bees may never be compelled to raise their young broods in combs more than three years old. This is done by taking away about one third of the combs yearly, in the month of March, before the breeding season commences, so as to avoid taking away any of the eggs or young bees; thus in three years the whole hive is renewed by removing the black and filthy combs which were rendered useless by being filled up with the bee bread, cocoons of the young, and other filth. Hives of bees that have been pruned in this way have been known to continue in a healthful state, and throw out swarms every year for 25 years. I have made it a practice of pruning my old stocks several years with the finest success. The first thing done by the bees in the spring is to fill up the space I have made by the pruning knife, with beautiful white comb; this gives the bees new cells to breed in, which they so greatly desire and need, and keeps them vigorous and ambitious. I am sensible that most bee keepers will raise an objection to the practice on account of stings; but when it is known, by trying the experiment, that a little tobacco smoke blown into the hive perfectly disarms the bees of any hostility, the objection will no longer be urged against it on that account. When the hive is thinly populated by bees, I have usually pruned the combs without the aid of smoke, or any thing to guard my face and hands; and I have no recollection of ever receiving a sting during the operation; but when the hive has an abundance of bees in it, four or five whiffs of smoke from a pipe or cigar is blown into the hive, then it may be taken from its place, set on its top, and such parts of the combs taken out as the owner desires. Every bee master should be furnished with a pruning knife for this purpose; moreover, it is used for a variety of purposes about the apiary. This instrument should be made of steel, (spring temper,) with a straight blade at one end to cut the combs vertically, while on the other end a small blade like a penknife should be turned in a right angle with the shank to cut horizontally, so that the combs may be cut in any desirable shape, without mutilating or destroying any except the parts removed. It has been stated that pruning the combs should take place early in the season; if, however, it is found that the combs are diseased by moths or any other cause, the combs should be pruned at any time during the warm season.

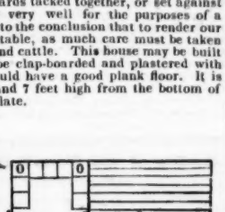
Respectfully, JOHN M. WEEKS.

### A Hen House.

MESSRS. EDITORS—If you think the accompanying plans of a hen-house worthy of the attention of your readers, I shall be gratified to see them in the Cultivator. Some farmers are of an opinion that a few boards tacked together, or set against the side of a wall, answer very well for the purposes of a hen-roost; but I have come to the conclusion that to render our hens and other fowls profitable, as much care must be taken of them as of our horses and cattle. This house may be built of pine boards, or it may be clap-boarded and plastered with lime; in either case, it should have a good plank floor. It is 12 feet long, 8 feet wide, and 7 feet high from the bottom of the sill to the top of the plate.



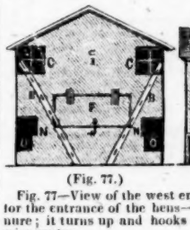

(Fig. 75.)



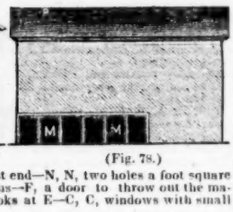

(Fig. 76.)

Fig. 75—View of the east end—A, a door 2 feet wide and 5 feet high—E, a small window.

Fig. 76—Interior view—I, a door—O, O, O, O, boxes for nests, 12 inches square, to be placed in three tiers, one above the other—U, a door, of the same dimensions as the outer one—B, B, are poles or roosts; these may be either of sassafras or wild cherry tree. They are fitted to swing up and hook at the upper floor.




(Fig. 77.)



(Fig. 78.)

Fig. 77—View of the west end—N, N, two holes a foot square for the entrance of the hens—F, a door to throw out the manure; it turns up and hooks at E—C, C, windows with small wire grates.

Fig. 78—Side view—M, M, nests or boxes for brood hens; these should have a long door to swing down and hook at the bottom. J. P. C.

*North Scituate, R. I.* 1841.

### On Farming, Silk and Vineyards.

MESSRS. EDITORS—Being greatly in the arrears to you on the score of often intended, but as often procrastinated communications, I sit down to write you one to embrace or touch upon a diversity of matters, and not unaptly, perhaps, entitled as above. Mine has been, for a few years past, the complicated or three-fold agricultural business of farming, vineyards and silk. Press of occupation thereon may excuse me, perhaps, for writing to you so seldom, and for this promiscuous irregular matter.

The late Mr. Herbemont, of S. Carolina, the pioneer of vine culture and wine making in the South, if not in America, remarked, as a comment on a piece of mine in Mr. Ruffin's "Farmer's Register," advocating the union of silk and wine business, that the business of the dairy should be added thereto, or that the same hands could be profitably employed the year round in that three-fold operation. [See Farmer's Register, vol. vi. page 92.] But the dairy concern cannot well be separated from other farming operations. In short, I employ the same hands, and sometimes parts of the same day in common farming operations, and also in those of my cocooneries and vineyards, and find no particular inconvenience in it; but, properly regulated, not an unpleasant change of employment to the hands, and the general superintendence of all not perplexing to me. For, as in studies, some diversity and change is resting and soothing to the mind; (three different studies a day when I was at Union College, N. Y. state,) so of cares, some diversity is far from being unpleasant. It is true that in my farm and cocooneries, some hands are mostly confined respectively to both, as children and females to gathering leaves and feeding worms, &c.

To encourage perseverance in new and laudable enterprises, and to give some idea of our three-fold operations, I would here draw a contrast. About a dozen years since, I purchased here 300 acres of mostly poor worn out land. So exhausted was the soil that my predecessor, though owning slaves and farming the ordinary way here, was forced to sell his place, not to soon have his all swallowed up by debt. To purchase and begin, I had to incur debt. And since, with hiring all my help, except that of my elder children latterly, I have been enabled to more than double the quantity of my land, and instead of the sterile appearance of my first purchased place, now is presented the sight of near five acres of flourishing vineyard, about the same portion covered with multicaulis trees, fine fields of clover, and good crops of corn and other grain. And also buildings corresponding, as a silk house 32 feet square, another of smaller compass; a wine house and other buildings requisite for the establishment. Again I would contrast the employments and products of these and the *present*, about this time of the year. Then, or at the time I purchased, hands were cultivating the two crops only on the premises, viz. cotton and corn. The corn planted without manuring, one stalk in a hill, and hills four and a half feet each way, and each stalk destined to have *one ear*, not to say *nubbin*. And the plow *tearing* the roots to help produce the result of the *nubbin* instead of the *ear*. Now may be seen my beautiful and promising drilled rows of Baden corn, seven feet apart, and stalks thick in the row, and each stalk to have 3, 4 or 5 ears, and flourishing rows of southern peas between all those of corn; all working or worked over for the last time with cultivators and small harrows. In a piece of low ground, formerly grown over with weeds, bushes and briars, now may be seen towering corn on the ditch banks as well as elsewhere, with pumpkins, and pea vines and young turneps between the drills, as the strength of the ground admits. In short, after the early morning feed of 100,000 or so of silk worms, different hands may be seen repairing to their allotted tasks, as one to the ruta baga patch, another to the sugar beets, another getting clover seed, another mowing, and others attending to plowing, working in the garden, vineyards and the like. While writing, I look from my office and see under my larger silk house a poor widow, a tenant, reeling a batch of cocoons that had lately wound up on her premises, and a little son of her's turning the Piedmontese reel. I say under the silk house; for, by lengthened posts placed on rocks, I raised the building or room (12 feet high) 10 feet from the ground; and this plan, besides effectually barring against the annoyance of rats, mice and ants, affords an excellent facility for drying mulberry branches in rainy weather. Again I see another elder son of this widow just coming in with a crate load of pine leaves or straw to cover over my field just sowed with rye, buckwheat, and clover, (to be a three-fold crop,) for which load and the spreading I allow his mother 20 cents; but as my sheet is nearly written over, I must for the present draw to a close, and if you choose to publish such as this, and wish more I will shortly take up my pen again for you, and tell you more about my silk and wine operations, and successful farming experiments; particularly a discovery of making clover a sure crop in the South, now reduced to a certainty by 3 years' trial. Also a kind of grape bearing my name in part, or Weller's Halifax, which for attested excellence in our best Southern vineyards is second to none. Also of some particulars of the facts that myself and sons from my wife's manufacturing, have silk garments made of perforated cocoons—that our sowing silk is pronounced first rate, and brings 10 dollars a pound. And I add, we calculate 50 pounds of this season's product, and 12 barrels of the pure juice of the grape (no adulteration of brandy or the like) which as heretofore, will sell at rates of two dollars per gallon. But I must stop, and in haste subscribe myself yours and the public's, with all due respect, SIDNEY WELLER.

*Brinckleyville, Halifax co., N Carolina, Aug. 5,* 1841.

### Odds and Ends—No. 3.

POST AND RAIL FENCE, or board fence with posts set in the ground, can never be made to be durable upon our prairie land. The soil is so rich, deep and loose, that in the spring of the year the posts will be continually "on the lean." In my opinion, the best way to make such fence is to use posts with heavy butts sawed square and set on the ground, and make the fence crooked, like the common rail fence. It will be much more durable, and the loss of the land in the fence corners is a small item where land is so plenty and cheap as it is in the West.

#### "Sod Fence."

Upon this subject I have bought some wit—my conclusions are, that all attempts at fencing with sods, or banks of earth upon such a loose friable soil as ours, is buying wit too dear. The only fence that can be made of the earth, must be made in the earth. A deep well made ditch may answer a good purpose for a fence, and in almost all places, will be a lasting benefit to the land. But, eventually, the "Chinese system" must be adopted upon all our large prairies. Whole tracts of country will be cultivated without fence. There are now upon the Connecticut river many thousand acres of land enclosed in one common field, and cattle when permitted to run at large are tended by a shepherd. The same plan must be adopted on the Western Prairies.

#### Secret of Soap Making.

Many persons are much troubled to make soap *come*; but there is no art and mystery or "luck" about the business. The whole secret consists in having strong lye—and it must be strong. If the ashes are clean, the soap will come without using lime. If the ashes are made from dirty chips, or burnt upon a clay hearth, lime in the leach at the rate of one quart to the barrel of ashes, may be used to great advantage. If lime cannot be procured, boil down the lye until there are coarse grains of salts in the bottom, then pour off the lye and *throw away the salts*. It will 'spoil your luck' to attempt to make soap with the salts in the kettle, for it is the salts of earth, not ashes. If your lye is strong, and you put in as much grease as it will dissolve, you will have soap whether it is put in hot or cold.

#### Flowers.

*"Why is it that the love of flowers takes such deep hold of the heart?"* Why! Why it is because they are the emblems of love. Show me one who does not feel his own heart expand as he watches the expanding beauties of some delicate flower, and you will show me one who knows nothing of that pure and perfect affection of the heart which binds the human family together. Teach your children to love and cultivate flowers.

#### Birds.

*Next to the love of flowers is the love of birds.*—Teach your children in mercy to spare the nests of the harmless little birds, and if you have a heart to be thankful, it will rise up in union with the little songster's carol, to think your lot is cast in such a pleasant vale of flowers and singing birds. These are some of the many things provided to lighten the toil of labor, and it is only a vitiated taste acquired from a false system of education, that prevents us from deriving a great deal of happiness from such small accompaniments of the journey of life.

#### Shade Trees.

What a singular and unaccountable strange thing it is, that those who settle in forests wage a war of extermination against every tree, not even leaving a single one for shade for man or beast. Look at his log cabin, standing alone in the bright brond glare of sunshine, with nothing upon which the morning larks could perch but a stump near his window, to wake him with her cheerful cheering song.

What a perverted taste has that man who builds his house upon the open prairie, and for years lives on in his solitary black looking prison, with not a single green and waving branch to add to the look of cheerfulness and comfort to his abode. Is it possible that his children can grow up to be good citizens and never know the youthful luxury of a gambol under a green shade?

Reader, go plant a tree. And when the birds come and rest in its branches and pour forth their melody, it will be more soothing to thy mind than ever was that cup to which so many resort to sooth the cares and troubles of life, and which is the cause of sending so many to that dark shade from which they can see no gleam of sunshine, or have no lovely melody of the pleasure inspiring birds, or see the expanding beauties of the

love inspiring flower. But teach your children to love these innocent sources of happiness, and they will have less temptation before them to seek pleasure where they will find ruin.

SOLON ROBINSON.

*Lake C. H., Ia., July 15, 1841.*

## Traveling Memoranda—No. 1.

*Laporte, Indiana, Aug. 6, 1841.*

EDITORS OF CULTIVATOR—I am now fairly on my great Agricultural Tour. I left home yesterday. The roads are dry and fine, for we have had but little rain of late; yet crops have not suffered much. The wheat, of which there is an abundance of the very best quality, is nearly all in stack or barn, and many are already thrashing and getting it to market at 68 cts. a bushel, under the impression that it will be no higher.

Oats in the north of Indiana are not a full crop this year, but corn, potatoes, and other things, give great promise generally. It has been an excellent season for the farmer to secure his hay and grain. But few showers, and many cool days and nights.

You will recollect that last year we suffered an almost universal blight in wheat. A very few pieces are affected this year, and as a matter of course, a very large crop will be put upon the ground this fall.

There is a new improvement in the thrashing machine in operation here. The thrasher is mounted upon wheels, and is drawn through the field, and the bundles taken from the shooks, thrown into the machine, and the straw scattered over the ground, the chaff blown out, and the grain deposited in a box, nearly clean enough for the mill, as the machine moves along through the field. It appears to operate well, and is a great saver of grain, time and labor.

The contrast between this "go ahead" way of getting out grain and the old fashioned flail, is not however so great as the contrast between this country now and ten years ago. Then, an Indian wild, an unbroken, broad waste of prairie and timber: Now, a succession of smiling fields, and happy homes of an industrious and thriving population.

Michigan City, often mistaken at the east for a Michigan town, is in this county. It is the only shipping port in the state of Indiana upon Lake Michigan. Vast quantities of wheat have been, and still more vast quantities of wheat and other products of one of the richest soils and most arable land in the world, of which the five or six contiguous counties are composed, will continue to be shipped from this port.

I am sorry to say that the farmers' prospects of realizing a profit upon pork this fall are very poor. So many packers lost money from their last fall operations, that but few will be tempted into the trade the coming fall. I am sorry for this, for I like to see the farmer well remunerated for his labor, and I am anxious that he should soon get rid of his land-pikes and alligators at such prices as will enable him to buy a better breed, of which there is a lamentable deficiency. The same remark is applicable to stock of all kinds.

But I must close and press forward on my long journey, and I hope I shall be able to meet with many incidents that will be interesting to those who have become familiar with the name of their old friend,

SOLON ROBINSON.

## No. 2.

*Logansport, Ia., Aug. 8, 1841.*

EDITORS CULTIVATOR—Under the new order of post office regulations, adopted by Postmaster-General Niles, the stage lays over here this day, (Sunday,) and to that you may ascribe the reason why you get a line from me now.

This town is situated upon the Wabash river, and the Wabash and Erie canal, now in operation from Lafayette (the head of steamboat navigation on the Wabash,) to Fort Wayne, passes directly through the heart of the town. There is also a large mill stream, called Eel river, empties in here, and that and the Wabash afford an immense mill power, which will at some day build up a great manufacturing town at this point. The land in the vicinity is of unsurpassed richness, covered in its native state with heavy timber; and owing to the fact that the land lately owned by the Miami Indians lies immediately across the river, the forest still remains in primeval grandeur. Over the rivers and canal are some fine bridges. The whole is one of the sudden, but here substantial, creations of the west. I find here a few, and compared with the numbers and wealth of the place, too few, subscribers to agricultural papers. The Cultivator, I believe, has the greatest number of subscribers; but instead of 20 it should be 200; and I most respectfully suggest to the citizens, that to make the circulation up to that number, would make the county of Cass $2,000 richer every year. There is not that attention paid to agriculture here that should be. There is a small society, but little action. Last fall, the society made a most laudable attempt to import a lot of Berkshire pigs. They were very unlucky. The pigs were landed in cold weather on the wharf at Chicago, and afterwards on the beach at Michigan City, and several of them either starved or froze to death, and those that came to hand have not done credit to the breed. The purchasers complain of the breeder, that he did not send a good lot, or else they were too young, or badly put up, or something. At all events, it was a very unlucky piece of business for all parties concerned, and has tended to put back the improvement in hogs here for several years. From experience, I am bound to advise all my friends to order no pigs shipped to the west in the fall of the year, and to take none at any time less than 8 or 10 weeks old. It is charged against the dealers in Berkshires that they make sale of every living pig, and under the reputation of selling their own stock, that they buy up and send off some very inferior pigs. Such conduct is highly criminal, and I mention it here publicly, that if any person knows of such conduct, that he come out under his own name and state the facts. And on the other hand, that the breeders may be aware of the charges. Hogs are the first and most easy stock to improve, and I think the most important, particularly in this great corn country.

The crop of corn here this year will be much injured by a great drouth, which I am told, however, is much more severe farther south. Wheat is only raised for home consumption, as at present there is no outlet for it. Probably in the course of next year, the canal will be open to Lake Erie, when you will have the whole Wabash Valley in competition in the wheat market. Success attend it. It can be profitably raised here at 50 cents a bushel. Oats are much injured by the drouth. There will not be over half a crop. Hay is not *much* injured, because it is not *much* cultivated.

But I must not dwell too long on the way. So adieu to-day.

SOLON ROBINSON.

*Perch Lake Farm, Aug. 18, 1841.*

MESSRS. GAYLORD & TUCKER—I read Mr. Randall's letter in your last with much interest, and observed his remarks on the animals he inspected. I am very glad breeders of *good stock* link together in good fellowship, and am happy to hear there are short horns in this state "as near perfect as flesh and blood can make them." I speak with reverence when I say, I hail the names of those spirited breeders, and exalted agriculturists, with true delight, and know of none more worthy of such animals. I only wish their genuine example were better appreciated.

I have frequently seen Mr. Fuller's President, and say with confidence he is the best bull the late Patroon, Van Rensselaer, ever bred, and his progeny keep their standing *equally* well. I trust we shall meet at the fair, on the 29th of September, where I hope we shall all pull together, as just men should, for the public good, and for our own credit support the *high station* of our President with good courage, manly feeling and *true spirit*, leaving discord and cavil to the ignorant and vulgar, for *judgment* must be *weak* when *prejudice* is *strong*. Our motives should be pure and unbiassed to support this noble purpose. You may rely I shall be one of the first to welcome him to his chair, cheer with glee the toast to his health and prosperity, and glory in seeing him at the head of a body of *intelligent* farmers, met to transmit opinions, and glean knowledge for the benefit of themselves and their country. They are the lords of all below, when improvement is the hope that animates them, and their exertions are blessed with success. I have not the honor of a personal acquaintance with Mr. R., but when we meet *face to face*, the challenge he says he has given me shall be *amicably* settled; there is now a misunderstanding between us.

I have no objection to a contest for *butter* with the Herefords and Short Horns, if he will allow me to send to England for another—the number of the latter so much exceed the former; but should he not go beyond his own herd, or that of Mr. Hepburn, I will meet him with one from ours; the time of trial to be fixed at the fair. I have before stated, in the "Farmers' Cabinet," that a good mellow-handling cow will invariably yield much more butter in proportion, than that which is drawn from an animal inferior in the touch; hard handlers require much more food, and must be forced with expensive keep, to make them ripe or rich milkers. This I have known from experience from boyhood.

I have some early potatoes I brought from England, that I think very superior. I planted them on the 26th of May, dug them for the table on the 7th of July, and they were thoroughly ripe and fit to dry for seed on the 14th of August. I think their quality is better than any thing I have ever seen. I have about two bushels of them, and will send you one of them to present to your correspondents, as they may be *well* distributed; they far exceed the Rohan, though not so large, and will stand next in produce if they *continue* as they *commence*.

Yours sincerely,

WH. H'Y. SOTHAM.

## Review of the New-York Market, Aug. 24.

*(Prepared for the Cultivator.)*

ASHES.—During the past month, the demand for Pots has been about equal to the receipts, while for Pearls there has been but a moderate inquiry. The receipts have been quite limited, in consequence of the large quantity which has this season been directed to Canada, instead of finding a vent at New-York, as in former seasons. The price has steadily advanced from $5·00, at the opening of navigation, to $5·75, at which price both descriptions now stand, with a good demand and rather an upward tendency. The exports from the 1st to 28th July, were 2,736 bbls. Pots, 189 bbls. Pearls; from 1st to 18th August, 800 bbls. Pots. The amount received from the opening of the canals to the 14th inst. is 19,487 bbls.; stock on hand, 1,090 bbls. Pots and 1,438 bbls. Pearls.

COTTON.—The advices from England received by the steamers which have arrived this month have been unfavorable, almost without exception, and communicated a corresponding feeling to this market. Prices have been gradually drooping, and since the arrival of the Columbia, the lower grades have been sold at prices establishing a decline of 1-2c. per lb. The better descriptions are comparatively neglected, and sales have not been made sufficiently large to show any change in rates. The operations are principally made by shippers. The total receipts from the 1st to 24th August have been 6,334 bales. Total export from U. States since 1st October last, 1,279,000 bales, against 1,818,000 bales last year to same time. The current rates are, Upland and Florida, 8 @ 10 1-2c.—Mobile, 8 3-4 @ 11 1-2c., a parcel very fine at 13 1-2c.—New-Orleans, 8 1-4 @ 11 1-2c.

FLOUR AND MEAL.—From the opening of the canals to the present time, with occasional seasons of quiet, there has been a gradual, steady improvement in the price and demand for Flour. The receipts from the interior have been unusually light this season. Large quantities of Ohio and other Western, which have in former years been sent to this market, have been forwarded to England via Canada. This fact, with a brisk demand for the supply of eastern ports and home consumption, has given prices an impetus, and we now quote all descriptions about $1·00 ℔ bbl. higher than the ruling rates in the early part of the month. The Columbia brought large orders from England, but the limits are in most cases much too low; some lots, however, as near as can be ascertained about 2,000 bbls., have been taken for England, at $6·50 for Ohio and Genesee. We quote fresh Genesee firm, $6·75—Ohio, $6·50 @ $6·75—Michigan, $6·50 @ $6·62 1-2—Georgetown and Howard-st. fresh, $6·75 @ $7·00—Brandywine, $7·00. The stock of Michigan and Southern is extremely light. Corn Meal is held at $3·75 @ $4·00, in bbls—$16·00 in hhds. Rye Flour, $4·00 ℔ bbl.

GRAIN.—The supplies of all descriptions throughout the month have been very light and unequal to the demand, in consequence of which prices have rapidly improved, say 8 cts. ℔ bushel on Corn—6 to 7c. on Rye—10c. on Wheat—and 6 to 8c. on Oats. Within a few days we have had considerable receipts of Corn and Rye, and the market generally does not exhibit the same firmness. A sale of Ohio Wheat was made yesterday at 135c. per bushel, and a cargo of North Carolina brought 134c. @ 133c. The demand for Wheat is good, but considerable supplies arriving would probably depress the market. We quote, with quick sales of all that arrives, Northern Corn 79c. measure—Jersey do. 78c. measure—Southern do. 75 @ 75 1-2 ℔ bushel of 56 lbs.—North River Rye, 68c. at the boats—Canal Oats, new, 47 @ 48c., old 49 @ 50c.—Southern do. last sales, 40c. The demand for Oats has not been so brisk within a day or two as for other descriptions.

PROVISIONS.—The market for Pork is extremely depressed, in consequence of the immense stock which has accumulated here, (probably never exceeded,) and the comparative light demand for export. There is now but a moderate demand for this article at $8 @ 10 for Ohio Prime and Mess, and some sales are reported at a shade lower rates. N. Y. State brings $8·37 1-2 @ $10·37 1-2, and lower county $9 @ $11. Beef sells in small parcels for consumption at $5·75 @ $6·25 for Prime, and $9·50 @ $10 for Mess. Lard is dull at 6 1-2 @ 8 1-2c. Prime Butter does not arrive freely, and sells at 18 3-4c.—Common brings 12 @ 15c. Cheese is in fair request at 5 @ 6c. ℔ lb.

POTATOES.—The drouth, in consequence of the light supplies received from the South, and the improving rates which have ruled there, has advanced slightly, and may be now quoted at $3·87 1-2 ℔ 100 lbs., cash. The inquiry has improved within a day or two, partly for shipment to the West Indies, which has strengthened the market.

SEEDS.—The drouth in some parts of the country created a demand for Clover and Timothy during the month, and they have improved in prices. Considerable quantities of Clover have been sold at 9 @ 9 1-2c. ℔ lb., and Timothy at $22·00 ℔ tierce. The inquiry has, however, subsided considerably, but sales are still made at these rates. Flaxseed is very scarce, and taken freely on arrival at $10 @ $10·50 per tierce by the crushers. Considerable parcels of foreign are expected.

TOBACCO.—There is not much activity in "Kentucky," excepting for the lower qualities, for which there appears to be some demand. The market, however, though firm, may be considered dull. For manufactured of the low descriptions, there are some sales making for export. The stock of Tobacco generally is large. We quote Richmond and Petersburg, 4 @ 8c.—North Carolina, 4 @ 6c.—Kentucky, 5 @ 10 1-2c.—manufactured No. 1, 12 @ 15c.—No. 2, 10 @ 11c.—No. 3, 9 @ 10 1-2c.—Ladies Twist, 16 @ 20c.—Cavendish 10 @ 40c.

TALLOW—The market is very quiet, and only small sales are making, at 8 3-4 @ 9c. The stock is considerable, especially of city rendered, which is held above the current rates by the butchers, and consequently is accumulating.

CATTLE.—A larger supply than usual was offered at Bull's Head on the last market day, in consequence of considerable lots having been driven in, for want of pasturage. The drouth in the interior has cut off much of the feed. The demand was not very animated, and prices were a little lower. There were 70 head Beeves left over. 80 arrived from the South, and 900 from this state. 850 were sold at $5 @ $7. *Cows and Calves*—55 were offered, and 40 sold at $20 @ $28 each. *Sheep and Lambs*—The supply was large and sellers were forced to give way. The whole at market, 4,800, were sold at $1 @ $4 for Sheep, and 75c. @ $2·75 for Lambs.

HAY.—The receipts have been lately quite light, and loose brings 75 to 100c. ℔ 100 lbs. Bundle Hay has been in demand, in consequence of supplies being needed by the U. S. Government, and sales have been made within a fortnight as high as $1·06 1-4 ℔ 100 lbs.

## Notices to Correspondents, &c.

Communications have been received during the past month, from B. P. Johnson, Jas. Gowen, Caleb Carmalt, Holkham, S. D. Martin, S. Guthrie, V. P. Colonus, Commentator, G. M., J. M. Weeks, Sidney Weller, Geo. Woodfin, (too late for answer this month,) C. N. Bement, H. L. Ellsworth, Wells Lathrop, Geo. Barnard, J. C. Etches, "H. S. R." M. L. Knapp, John Boynton, W. H. Sotham, L. F. A., Solon Robinson, E. Hersy Derby, John H. Cocke, R. Sinclair, Jr. & Co., Nicholas Titus, A. & G. Brentnall, James Jones, and D. Y. O.

Several communications, which we should have been glad to have given this month, arrived too late; and among these are those of Mr. Lathrop, Mr. Derby, and L. F. A.

Our thanks are due to different friends for various newspapers containing notices of Agricultural Societies, and other matters of interest to us—To GEO. C. THORBURN, New-York, for "A Tabular Treatise on Chemistry, for the use of the Agriculturist," and "A Table of Manures, their properties, and mode of application," both by John Robinson, M. B.—To W. H. RICHARDSON and R. HILL, Jr., for copies of the Proceedings of the Henrico Ag. and Hort. Society, with the President's Address—and to the Shaker Family at Niskayuna for specimens of Early Canada Corn.

## CONTENTS OF THIS NUMBER.


| | |
|---|---|
| Cattle Show and Fair at Syracuse—Viewing Committees, Additional Premiums, Regulations, &c.—Illinois Swamp Grass, | 137 |
| Mineral Salt—Onondaga Salines, | 138 |
| Retention of Wool by the Merino—Fattening Animals—Blight of the Plum, | 139 |
| Work for the Month—Culture of Wheat—Virginia Board of Agriculture—Sun Dials, | 140 |
| Royal Ag. Society's Meeting at Liverpool—S. Carolina Ag. Societies—Henrico (Va.) Ag. Society—N. York County Ag. Societies—Liebig's Chemistry—Berkshire Pig—Agricultural Capital—The Rose Bug—American Institute, | 141 |
| Dictionary of Terms used in Agriculture, | 142 |
| Rearing Poultry—Productive Farm—Urate—Chess—Herd Book Cattle—Cisterns—The Bloody Murrain, | 143 |
| New-Jersey Marl—Milk House—Disease in Fruit Trees—Recipes, &c.—Smokey Fireplaces—Manure on Grass Lands—Sawdust, Planting Trees, Johnswort—Merited Compliment—Pine Sawdust—Bots in Horses, | 144 |
| Imported Stock in Georgia—California Wheat—Notices of New Publications, | 145 |
| Vermont Farms and Farming, by S. W. JEWETT—Building Stone Wall, by CEPHAS, | 146 |
| Remedy for the Turnep Fly, by B. P. JOHNSON—On the Use of Lime, by J. C. MATHER—Blight or Mildew in Wheat, by JAS. GOWEN and S. ROBINSON—Preservation of Timber, by C. CARMALT—The Sulphates and Salts of Iron, by HOLKHAM, | 147 |
| Swine, the Woburns, by S. D. MARTIN—The Sugar Beet and the Rohan Potato, by S. GUTHRIE—Shape of the Ax, by A FRIEND TO AGRICULTURE—Improvement of the Soil and the Mind, by H. W. M.—Hay Riggings, by V. P. | 148 |
| An Excursion to Syracuse, by H. S. R.—Berkshires imported by S. Hawes, by A. & G. BRENTNALL—Filtering Cisterns, by F.—Dr. Martin's Pig Beaten, by JAS. JONES—Epidemic among Cattle, by C. N. BEMENT—Tomato Figs, by A LADY OF WASHINGTON—Imported Berkshires, by L. F. A., | 149 |
| Dr. Martin's Woburns, by S. D. MARTIN—Comments on the July No. of the Cultivator, by COMMENTATOR, | 150 |
| Tobacco Scaffolds, by G. M.—Management of Bees, by J. M. WEEKS—A Hen House, by J. P. C.—On Farming, Silk, and Vineyards, by SIDNEY WELLER—Odds and Ends, by SOLON ROBINSON, | 151 |
| Traveling Memoranda, Nos. I. and II., by SOLON ROBINSON—Letter from W. H. SOTHAM—Review of the New-York Market, &c., | 152 |


### Illustrations.


| | |
|---|---|
| Fig. 70.—Geological Section illustrative of the Onondago Saliferous Group, | 138 |
| Fig. 71.—Sun Dial, | 140 |
| Fig. 72.—Dr. Martin's Woburn Sow Courtenay, | 148 |
| Fig. 73.—Shape of the Ax, | 148 |
| Fig. 74—Dr. Martin's Woburn Boar Belmont, | 150 |
| Figs. 75, 76, 77, 78.—Hen House, | 151 |



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